DOCUMENT RESUME

ED 064 817 EC 042 349

AUTHOR	Urie, Robert M.; And Others
TITLE	Student Aides for Handicapped College Students. Final Report and Manual.
INSTITUTION	Saint Andrews Presbyterian Coll., Laurinburg, N.C.
SPONS AGENCY	Social and Rehabilitation Service (DHEW), Washington, D.C. Div. of Research and Demonstration Grants.
PUB DATE	Jul 71
NOTE	171p.
EDRS PRICE	MF-$0.65 HC-$6.58
DESCRIPTORS	Academic Achievement; *College Students; Demonstration Projects; *Exceptional Child Research; Guidelines; *Physically Handicapped; Statistical Data; *Student Adjustment; Student Participation; *Student Volunteers

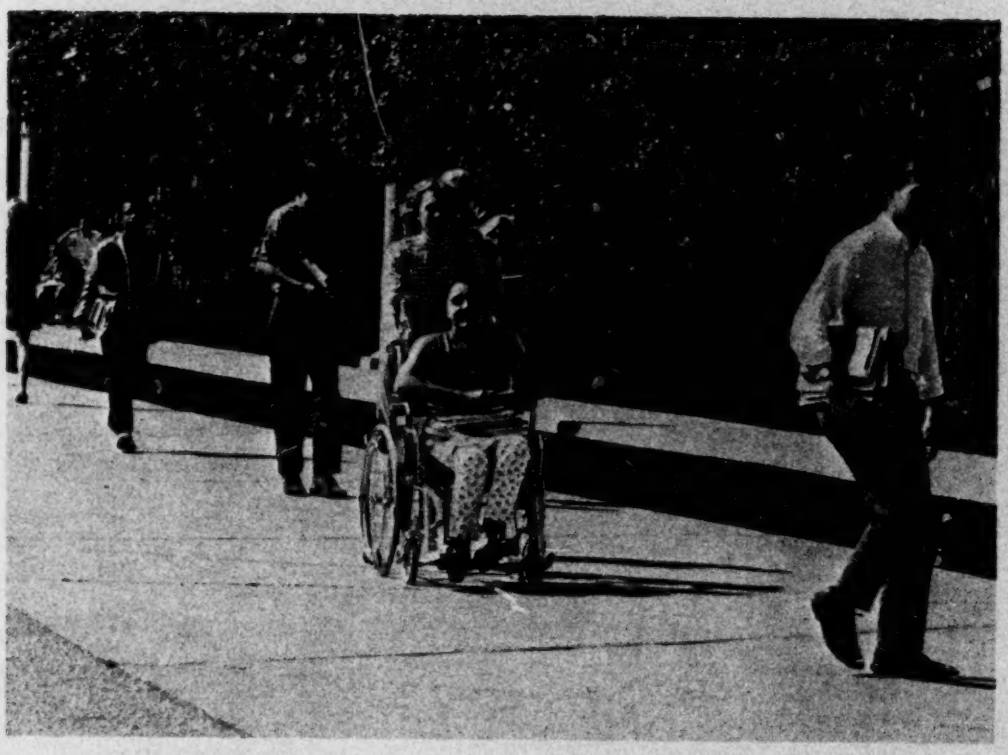
ABSTRACT

The stated purpose of the project was to demonstrate that the use of student aides to assist selected physically handicapped students in the college setting, in conjunction with special physical facilities and individual counseling sessions for both the physically handicapped and the student aides, would result in a more satisfactory academic, physical, psychological, social, and vocational adjustment for both groups than would have otherwise been expected. The first part of the report presented the overall study, while the second part consisted of a manual for student aides and administrators of similar programs. The sample consisted of 29 male handicapped, 32 male aides, 33 female handicapped, and 72 female aides. Results showed that participants, when compared to general college students at the college, made better academic records and had a lower attrition rate. Most participants were reported to have found meaningful vocational placement which was related to their measured vocational interest profiles. It was concluded that student aides appeared to make a positive contribution to the total educational process for physically handicapped students, and that the aide role had no negative effects on the aides' own progress. (CB/Author)

ED 064817

FILMED FROM BEST AVAILABLE COPY

STUDENT AIDES FOR HANDICAPPED COLLEGE STUDENTS



St. Andrews Presbyterian College
Laurinburg, North Carolina

FINAL REPORT: Social And Rehabilitation Service
Project No. 12-P-55156—4-05 (RD-2424-G)
July 1, 1971

EC 042 349

Significant Findings for Rehabilitation and Social Service Workers

___ Handicapped college students can be assisted effectively in their daily routines by student aides who are their peers.

___ Handicapped students who are technically classified as quadriplegic will generally require adult attendant services in addition to student aides.

___ Student aides, as a rule, should not be expected to assume the total nursing care needs of a severely handicapped peer in the educational setting.

___ Typical dormitory facilities are not suitable for quadriplegic levels of disability; private bath facilities with additional space are essential.

___ The college or university should establish a central coordinating office for rehabilitation-related services, providing counseling, supervision of student aides, information, and general assistance to the handicapped and their aides.

___ After the first semester of college experience, handicapped students should select their own aides rather than having administrative assignments of aides.

___ The Strong Vocational Interest Blank and the Tennessee Self Concept Scale are useful tools in the identification of prospective aides.

___ Prospective aides should have an active part in the decision-making process and should work closely with the handicapped students as aide assignments are being made.

___ A mutual self-selection process between handicapped students and aides greatly reduces potential conflict between roommate pairs of this type.

___ Handicapped students should be screened for admission through a summer trial program which coincides with the regular summer session term. They should be required to take regular college courses for credit during the trial period.

___ The summer trial program should be made available to rising high school seniors with physical handicaps; those who are unsuccessful in the trial period will then have an additional year to make alternate plans.

___ Service programs involving handicapped students and their aides should be administered on an individual basis insofar as possible; group labels and techniques tend to obscure essential individual needs.

___ Small colleges can provide a positive, constructive situation for handicapped students when policies are carefully developed in advance of actual enrollment of such students.

STUDENT AIDES FOR HANDICAPPED COLLEGE STUDENTS

Final Report, The Use of Student Aides
to the Physically Handicapped in Higher Education

July 1, 1971

St. Andrews Presbyterian College
Laurinburg, North Carolina 28352

Robert M. Urie, Project Director

Major Contributors and Consultants

C. Dwight Auvenshine
Rodger W. Decker
Rufus R. Hackney, Jr.
David B. Hawk
Alice L. McKenzie
Mark L. Perkins
Douglas W. Schoeninger
Alvin H. Smith
Wade O. Stalnaker
Edwin E. Wheeler

Cover photo by John H. Campbell

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

This investigation was supported, in part, by Research and Demonstration Grant No. 12-P-55156/4-05 (RD-2424-G) from the Division of Research and Demonstration Grants, Social and Rehabilitation Service, Department of Health, Education and Welfare, Washington, D. C. 20201

FOREWORD

The St. Andrews SRS Project represents a classic example of a private educational organization, an agency of the government, and private philanthropy uniting their respective resources to meet a human need. Originally conceived in the minds of but a few, the project was energized by the availability of funding from SRS and the Mary Duke Biddle Foundation.

Innovative techniques which enabled institutions of higher education to adequately meet the needs of persons with severe physical limitations were primarily developed by major institutions in the Midwest and West. Surprisingly, the East Coast was lacking in higher educational facilities for handicapped students. Uniquely lacking in facilities and techniques were small and medium-sized liberal arts institutions. As early as the fall of 1961, personnel at St. Andrews sought to capiralize on the attributes of a new, ramped campus to develop a comprehensive program for handicapped students. This project represents the fruition of those early efforts.

The purpose of the present report is to provide an overview of the research methods and techniques employed in the primary thrust of this program. While this project did not have the resources of a major research center, it was possible to secure competent personnel for the permanent and consultative staffs. This report indicates that quality research is possible in the small college setting, that it is possible

to utilize regional resources, and that personnel from private, state, regional, and federal agencies are able to work in harmony.

For the privilege of touching the lives of many young people previously doomed to educational stagnation the host of persons involved in this project are eternally grateful.

Rodger W. Decker
Dean of Students

Laurinburg, North Carolina
July 1, 1971

PREFACE

One of the keenest frustrations felt by project staff was an almost overwhelming wealth of intriguing data on the one hand but, on the other hand, a reasonable demand for useable results. We recognized many fascinating avenues for psychological and vocational study in depth. Individual case study materials and verbatim taped interviews represent a rich source of potential understanding in the entire process of aides and handicapped students working together in the higher educational setting. The appendices of this final report contain statistical tables which present a generalized group picture of all project participants. But the frustration remains with us as we have attempted to summarize the data for practical use by rehabilitation workers, college and university student personnel staff, and the various state and federal agencies.

The report is in two parts. We have first presented the basic, overall study and the most significant results from it which seemed to have a direct bearing on the rehabilitation field. The second part of the report is a manual for student aides and administrators of programs of this type. That document is written for laymen who are involved in the day-to-day operation of a student aide program. Since the process of using student aides for handicapped students involves extremely delicate interpersonal relationships, a manual cannot presume to answer

every question that may arise. It is our hope, however, that this report as a whole will be of some value to those who read it.

Robert M. Urie

Laurinburg, North Carolina

ACKNOWLEDGMENTS

The most important individuals cannot appear here by name. They are, of course, the handicapped students and their aides who have shared themselves so generously throughout the life of this project. Without their cooperation and understanding, there would have been no project in the first place, and we are grateful to them.

For the early phases of the project, we are indebted to Miss Mary Switzer, who was National Commissioner of the Vocational Rehabilitation Administration; Mrs. Mary Semans and Graddon Rowlands for the Mary Duke Biddle Foundation; Corbett Reedy and Bill Crunk in the regional SRS office; Robert M. Lassiter, State Director, succeeded by Claude A. Myer, Assistant Superintendent for Vocational Rehabilitation, Raleigh, N. C.; R. G. Harrison and L. L. Schurter, also in the state office; and Charles A. Guy, Area Director, Paul Edwards, Regional Supervisor, Foster Prevatt and Jack Ammons, District Supervisors, Vocational Rehabilitation.

We are indebted to Thomas K. White, Editor, The Journal of Applied Rehabilitation Counseling, for permission to include material from that publication in this report.

Locally, major contributions were made by many persons: Hugh McArn, David Williams, and George Shannon, physicians; Mrs. Margaret Geffert, who was Supervisor of Aides; Ralph Hester, the first project director; Mrs. Mary English; Harold C. Babcock, Director of Physical Plant; Jerome McGee and Gerald Griffin in physical education; the St.

Andrews faculty members who spent many hours with handicapped students; and J. Bruce Frye and Stan Bell, Development Officers. Finally, a special word of thanks goes to Mark Perkins for computer services; Mrs. Virginia McKinnon for duplicating services; and Mrs. Peggy Tapp for typing and retyping the report with great skill and patience.

TABLE OF CONTENTS

	page
Significant findings for rehabilitation and social service workers	i
Title page	ii
Foreword	iv
Preface	vi
Acknowledgments	viii
Table of contents	x
List of tables	xiv
Abstract	xvi
I. Introduction	1
A. Background information on project	1
B. Statement of the problem	6
1. General and specific purposes of the project	6
2. Theoretical and practical considerations	7
3. Anticipated useable results of the project	8
C. Review of relevant literature	9
D. Description of setting	10
II. Methodology	13
A. Project program and professional staff	13
1. The program	13
2. The staff	15
B. Population and sample	16
C. Variables investigated	21
D. Data collection and analysis	23
1. Tests, scales, and other means of data collection	24
2. Statistical techniques	26
III. Results	27
A. Academic	28
B. Physical	30
C. Psychological	34
1. Tennessee Self Concept Scale	34
2. Minnesota Multiphasic Personality Inventory	35
3. Attitudes Toward Disabled College Students	38
D. Sociological	40
E. Vocational	43
IV. Discussion and Implications of Results	47

page

V. Summary 51

References 55

Appendices 59
A. Student aide agreement 61
B. Physically handicapped student agreement 62
C. St. Andrews student health examination record 63
D. Supplementary physical health record for handicapped students 65
E. Tennessee Self Concept Scale 67

Males

1. Aides and handicapped 67
2. Aides and general college 68
3. Handicapped and general college 69
4. All project and general college 70
5. Aides, pre and post 71
6. Handicapped, pre and post 72

Females

7. Aides and handicapped 73
8. Aides and general college 74
9. Handicapped and general college 75
10. All project and general college 76
11. Aides, pre and post 77
12. Handicapped, pre and post 78

F. Minnesota Multiphasic Personality Inventory 79

Males

1. Aides and handicapped 79
2. Aides, pre and post 80
3. Handicapped, pre and post 81

Females

4. Aides and handicapped 82
5. Aides, pre and post 83
6. Handicapped, pre and post 84

G. Strong Vocational Interest Blank 85

Men

1. Aides and handicapped (1938, Form M) 85
2. Aides and general college (1938, Form M) 87
3. Handicapped and general college (1938, Form M) . . . 89
4. All project and general college (1938, Form M) . . . 91

Men

page

5. Aides and handicapped (1966, Form T399) 93
6. Aides and general college (1966, Form T399) 95
7. Handicapped and general college (1966, Form T399) . 97
8. All project and general college (1966, Form T399) . 99

Women

9. Aides and handicapped (1946, Form W) 101
10. Aides and general college (1946, Form W) 102
11. Handicapped and general college (1946, Form W) . . . 103
12. All project and general college (1946, Form W) . . . 104

H. The Effects of Peer Contact on Attitudes Toward Disabled College Students 105

PART II

MANUAL: STUDENT AIDES FOR PHYSICALLY HANDICAPPED COLLEGE STUDENTS

LIST OF TABLES

page

1. Freshman profile for class entering 1970 17

2. Scholastic aptitude test scores, freshman class 1970 18

3. Academic data for freshmen 1970 and for all project participants, 1965-1970 19

4. Retention data and grade point averages upon graduation for project participants 29

5. Summary of disabilities census - spring 1971 32

6. Attitudes toward disabled college students 39

7. Mean MMPI raw scores for high and low popularity groups 42

ABSTRACT

The purpose of this project was to demonstrate that the use of student aides to assist selected physically handicapped students, in conjunction with special physical facilities and individual counseling sessions for both the physically handicapped and the student aides, would result in a more satisfactory academic, physical, psychological, social, and vocational adjustment for both groups than would have otherwise been expected. The sample group consisted of twenty-nine male handicapped, thirty-two male aides, thirty-three female handicapped, and seventy-two female aides. While the obtained results were not directly attributable to the project structure as such, they were all essentially in the predicted directions. Participants, when compared to general college students at this institution, made better academic records and had a lower attrition rate. Most participants found meaningful vocational placement which was related to their measured vocational interest profiles. Student aides thus appeared to make a positive contribution to the total educational process for physically handicapped students and the aide role as such had no negative effects on the aides' own progress.

I. INTRODUCTION

A. Background information on project:

Interest in providing higher educational opportunities for physically disabled students is reflected in numerous public and private programs, but only recently has concerted effort been given to a most obvious barrier to such opportunities for the handicapped. Physical facility planning for the elimination of architectural barriers is not widespread. Progress is anticipated in this respect as a result of a federal-level commitment toward providing ways and means for widespread reduction of such barriers.

St. Andrews Presbyterian College, through the foresight of its Board of Trustees, took action in the late 1950's to assure that architects for the new campus near Laurinburg, North Carolina, would plan physical facilities for maximum accessibility by wheelchair students. With limited guides and experiences, construction engineers provided for ramps, ground floor access throughout the campus, and several other conveniences with the wheelchair and crutch-bound student in mind. With each year, college officials found and eliminated additional barriers not identified at construction time.

With architectural barriers minimized as far as the handicapped student was concerned, other problems began to come into focus with the first arrival of wheelchair students on the new campus in 1961. Some services designed for the regular resident student created problems of a near-impossible nature for certain handicapped students. Some

programs designed for the regular resident student created similar problems for certain handicapped students. Interpersonal relations between the various student participants presented problems that had not been anticipated and some of which were yet to be sufficiently well identified for problem solving.

The Dean of Admissions and the Dean of Students, two key college staff members in matters relating to new students, recognized several problems which would need resolution if severely disabled students were to have a reasonable chance for successful experiences in the St. Andrews residential college setting. Other problems, unfortunately, were not recognized in the pre-admission process.

Questions arose as to whether an otherwise able quadriplegic should be accepted, as to how the process of shampooing and caring for the hair of an upper spinal fusion case should be undertaken, as to how many wheelchair students could be accommodated in each sixteen-person suite, as to the extent that special medical care and supervision should be given paraplegics resulting from cord injuries, and as to numerous other questions of personal needs presented as real and imagined ones by the handicapped students.

Such questions prompted the two college officials to seek further insights from experienced and knowledgeable professionals in rehabilitation clinics and agencies, beginning in the spring of 1962. From that beginning to the present time, it has been assumed that certain handicapped students otherwise qualified would require some special services if they were to be admitted for pursuit of an undergraduate degree at St. Andrews. Yet, services, both as to their nature and their extent, would need to parallel a study undertaken along lines which would help

identify essential academic program adjustments, additional physical plant improvements, and such other influences as social interplay and vocational placement. Physical well-being, and essential Health Center Services, of course, were other considerations with which expert assistance would be needed as more and more students with neuromuscular restrictions applied for admission. How to better understand the special services and adjustments which would be needed, and how to secure such information with reasonable accuracy, were additional questions which confronted the two college staff members during 1962-64 with rather discouraging results.

It became obvious that financial and professional resources immediately available to the Deans were not sufficient to handle the increasing number of problems associated with admission and retention of handicapped students. It also appeared that it would be necessary to stop admitting such students. One additional attempt was made in an effort to gain the attention needed and to secure necessary financial support in the college's interest to continue in its service to handicapped students. The two Deans prepared for the College Development Officer a proposal for funds from private and public agencies which might provide the professional and financial assistance needed. During late spring of 1965, an introduction to Miss Mary Switzer, Commissioner of Vocational Rehabilitation Administration in Washington, was gained and her interest and support was exceeded only by her insights toward possibilities for both the study of and services to handicapped students at St. Andrews.

The purposes of this project initially adopted were as follows:

1. To provide sociological observation of the physically handicapped.

2. To evaluate the use of the student aide as counselor assistant.

3. To develop and evaluate sociological documentations of the student aide program under supervision.

Following review by Washington staff members and the National Advisory Council, it was decided that the St. Andrews proposal should be approved as a pilot study primarily for planning purposes.

As the college moved toward the official implementation of the pilot study, the problem of timing such implementation to coincide with the authorized beginning date of November 1, 1965, was not recognized. For example, one fundamental procedure provided for summertime orientation conferences between the handicapped, their parents, and project officials. The assembly of a more comprehensive personal and medical history had been planned as a pre-registration period undertaking. The selection of student aides, and their initial in-service training sessions with and without their handicpaped partners, needed to start prior to the opening of college. It even seemed desirable to do this before the regular orientation period in which all students participate prior to academic registration.

College officials designated to provide primary leadership for the Vocational Rehabilitation Administration-St. Andrews Presbyterian College project, once funding was approved, realized that some compromising and some adjustments would be necessary. Initial organizational steps had to be undertaken during the summer months preceding the date for which approval was anticipated. It was decided, however, to withhold initiation of student and professional staffing negotiations, clerical

routines, and project orientation details until mid-August; and then such decisions by college officials had to be somewhat tentative pending firm authorization of the November 1 beginning date. Yet it should be stated that enthusiasm for the project in the fall of 1965-66 was high and that reception to the basic ideas underlying the project by parents, students, and staff was very satisfactory.

As was expected, several changes in original plans became necessary as problems of staffing, orientation, and project programming got under way. The Project Director recommended that a Project Policy Committee, separate from but inclusive of certain project staff members, be established for continual review of basic policy and procedural changes. And at the suggestion of Washington officials, a Research Director was added to the project staff.

A Project Policy Committee was established by the President of St. Andrews to review and approve as appropriate such major changes in project plans and procedures which the staff leadership believed necessary.

Certain changes became necessary during the initial stages of the project. Some of these were (1) changes in the selection of student aides; (2) the method of reporting observations in the activities of daily living of the handicapped participants in the study; and, among other things to be identified later in this report, (3) the manner for handling referrals from student aides and primary consultants to whom handicapped participants were assigned.

The original project proposal provided for the study of student aides to "severely handicapped" students, and it was anticipated that such aides would be assigned as the roommate aide of each of the several handicapped selected for participation in the study. As pointed

out in greater detail elsewhere in this report, roommate assignments in most instances had already been confirmed when the decision to undertake the study was made. Changes in such assignments for purposes of the project were resisted in several instances by both prospective aides and handicapped students, and by the parents of some of the handicapped students. With some adjustments in assignments, twenty-eight student participants were identified. Of this number, thirteen had some degree of physical limitation. Agreements as to release of personal and medical data for purposes of the project were developed (Appendices A and B), and initial conferences and group discussions of project plans were undertaken.

The project leadership believed that student participants should be equally divided between four primary staff consultants for periodic conferences to facilitate review of reports from the students and for basic contact between project leaders and students in an advisor-advisee context. Cross referrals were provided for in order that the Vocational Guidance Consultant, for example, would be available to all project participants having interests or problems in vocational career decision-making. Such regular advisor-advisee assignments provided what was believed to be a reasonable work load for the primary staff consultants, and freedom was extended to student participants to refer to any consultant when desired.

B. Statement of the problem:

1. General and specific purposes of the project:

The purpose of this research and demonstration project was to demonstrate that the use of student aides to assist selected physically

handicapped students, in conjunction with special physical facilities and individual counseling sessions for both the physically handicapped and the student aides, would result in a more satisfactory academic, psychological, social, physical, and vocational adjustment for the physically handicapped and their aides than might have otherwise been expected. A further purpose of this project was to accurately define the role of such student aides for the benefit of this institution and others who might undertake a similar project.

2. Theoretical and practical considerations:

Theoretical and practical considerations were given to the following which relate to the basic purposes of the project.

a. What effect would the use of student aides have upon the academic performance of physically handicapped students in higher education, as determined by grade point averages, instructors ratings, and the results of standardized tests? And, what effect would assisting as aides have upon the academic performance of such student aides, as determined by the same evaluation devices?

b. What effect would the use of student aides have upon the physical adjustment of physically handicapped students in higher education, as indicated through regularly scheduled medical examinations and as evaluated by a continuing analysis of activities of daily living? And, what effect would assisting as aides have upon the physical well-being of students assisting as aides, as determined by the same evaluation devices?

c. What effect would the use of student aides have upon the psychological adjustment of physically handicapped students in higher education, as measured by psychological tests, systematic observation,

and personal interviews? And, what effect would assisting as aides have upon the psychological status of those students assisting as aides, as determined by the same criteria?

d. What effect would the use of student aides have upon the sociological adjustment of physically handicapped students in higher education, as measured by sociometric tests, systematic observation, and personal interviews? And, what effect would assisting as aides have upon the sociological status of students assisting as aides, as measured by similar evaluative techniques?

e. What effect would the use of student aides have upon the changes in vocational decision-making of physically handicapped students in higher education, as measured by tests of vocational preference, and as revealed through personal interviews? And, what effect would assisting as aides have upon the vocational choices of such aides, as evaluated in a like manner?

f. What effect would the use of student aides have upon the post-college vocational adjustment of physically handicapped students, as evaluated by follow-up studies regarding job performance and satisfaction? And, what effect would assisting as aides have upon the post-college vocational involvements of such aides, as evaluated in a similar fashion?

3. Anticipated usable results of the project:

a. Contribute data on the place of student aides in a college program for the physically handicapped.

b. Provide the kind of information that other schools of higher education may need for making decisions regarding the admission of and programming for physically handicapped students.

c. Conserve and utilize many of the human resources which in the past have been tragically bypassed.

d. Blaze new trails for college training of the physically handicapped. Because of our efforts more physically handicapped might have the privilege of earning a college education.

e. Emphasize the potential abilities that lie behind every physical disability.

C. Review of relevant literature:

Several studies have been conducted concerning physically handicapped students in higher education. West (1965) and Stone (1965) administered the Edwards Personal Preference Schedule to disabled and nondisabled college students and adults. These similar studies suggested that certain personality characteristics could be identified among disabled college students. Differences between the results of the two studies suggested, however, that the findings could not be generalized from one college population to another.

A comprehensive view of the needs of physically handicapped college students was obtained by Tucker (1964) at Kansas State Teachers College. The results of his research were published in a handbook which provides a convenient reference for college administrators as they deal with handicapped students. Tucker suggested a formal approach to the needs of such students and encouraged the formation of a Rehabilitation Committee on campus as a first step. This handbook also gave specific suggestions as to student health, physical facilities modifications, and suppliers of equipment.

Another basic resource for dealing with handicapped college students is the work of Rusalem (1962). He reviewed the problems and needs of physically handicapped students on a national basis and concluded that the matter was simply overlooked in most instances.

Other significant studies financed by federal grants were investigated. Hofstra University engaged in a complete modification of physical facilities in order to eliminate architectural barriers. The University of Missouri also completed a major project which involved removal of architectural barriers as well as consideration of the total needs of handicapped students.

Extensive pioneering work in the area of service to the handicapped has given the University of Illinois a nationwide reputation. Wayne State University also developed a formal program dealing with the same problems.

These were some of the more significant studies and projects which were consulted during the St. Andrews pilot study period. Unique to the latter, however, was the use of student aides as a formal approach to meeting certain physical needs of handicapped students.

D. Description of the setting:

St. Andrews Presbyterian College is a four-year, coeducational residential college in Laurinburg, North Carolina, established in 1958 by the Presbyterian Synod of North Carolina, which elects trustees of the College. St. Andrews is innovative in its programs and teaching; contemporary in its 820-acre campus and in its intention to provide maximum opportunity for independent and interdisciplinary study.

Christianity and Culture is an interdisciplinary program and combines and interrelates religion, history, philosophy, literature, the social sciences, and the arts. It seeks to develop an understanding of Christianity in its impact upon Western civilization and in its application to the problems of our times, to impart a knowledge of non-Western civilizations, and to kindle a real concern for moral and religious values.

The same careful planning and consultation with leading educators that preceded the Christianity and Culture program and, more recently, the science curricula, now is being brought to bear in a third area--an interdisciplinary approach to the social and behavioral sciences. The new program integrates study in such areas as economics, business administration, politics, psychology, and sociology.

The College is accredited by the Southern Association of Colleges and Schools. It is an institutional member of the National Association of Schools of Music and the American Association of Colleges for Teacher Education. It also holds membership in the North Carolina Association of Colleges and Universities.

One of the chief attractions of the College is its new, contemporary style campus situated on 820 acres of rolling land, most of which lies in the city limits. Leading educational consultants were employed to work with expert architects and landscape architects to translate Christian educational philosophy into modern construction. Design of the campus won for its architects a first-place citation in national competition.

Most of the campus buildings are grouped on the northern and southern banks of a 70-acre lake. The major buildings for academic work--

the library, the liberal arts building, the new science building, and the music building--are on the southern bank; facilities for student housing, recreation, and extracurricular activities are located on the northern side. A causewalk restricted to pedestrians links the two areas. All permanent buildings are linked to a central air-conditioning and heating system. Every building has ramps and other design features for students with physical limitations.

II. METHODOLOGY

A. Project program and professional staff:

1. The program:

The basic program consisted of the selection, assignment, and supervision of roommate aides for handicapped students. Full details on this process are provided in Part II, a manual for administrators of such a program. Briefly, the selection of aides evolved over a period of six years from an administrative act which proved unsatisfactory on the whole, to a mutual self-selection process between the handicapped and the prospective aides. The project office served as a clearinghouse where handicapped students could come in search of prospective roommates and where prospective aides could come and volunteer their services. While the project office did serve in a legitimate administrative role to protect the interests of all the students involved, actual pairing of handicapped students and aides was eventually limited to new students who had no recourse. Thus as students came to know each other better during each additional semester of residence in college, they were increasingly able to make appropriate choices as to roommates.

Aides were supervised by a full-time person who was a registered nurse. This supervisor held conferences approximately once per month with the aides, usually on an individual basis. During the summer trial sessions, the contacts were essentially on a daily basis, later diminishing as the aide became more secure in his role. Handicapped students were seen on approximately the same schedule by the project director and

were also seen informally by the supervisor of aides in the dormitories. Only in this way could a reasonable amount of medically-related information be made available to the project staff. It should be seen primarily as preventive medicine practice, both in regard to physical problems such as pressure sores and respiratory infections, and for emotional problems as well. Frequently, the contact with an adult who had a personal and professional interest was sufficient to prevent a major problem from developing.

A summer trial program was initiated for all prospective handicapped students in which they had an opportunity to demonstrate their level of physical, academic, psychological, and social functioning on this campus. The session coincided with the regular summer school dates and each prospective handicapped student took one or more courses for credit during the trial period. A great majority of students who participated in the trial session were then accepted into the fall semester, and where there were exceptions the student himself typically arrived at the decision himself. He had evaluated himself in the actual college setting and could judge his own capabilities at the conclusion of the trial experience.

The applied research phase of the project involved note taking in the interviews, pre- and post-testing of all students with standardized tests and scales, sociogram analysis of dormitory suites, and the collection of monthly time sheets from all aides.

The service phase of the project covered a wide range of activities. Counseling was provided by the project director and supervisor of aides on a regular basis. In addition, many unscheduled sessions were held as the need arose. For example, interpersonal conflicts within the

dormitory suites as well as between roommates themselves frequently required additional counseling time.

Transportation was provided for handicapped students who had appointments in town at a distance of approximately three miles one way, for urological problems, emergencies, and routine checkups. General medical services were available on campus each morning during the doctor's daily visits. Prescriptions were generally taken to one of the local pharmacies.

Adapted physical education provided opportunities for the handicapped to earn the required graduation credits in physical education. Activities included bowling, swimming, billiards, table tennis, archery, basketball, rifle shooting, and automobile driver training.

Other services which were provided in connection with the project include a new, full-size school bus with a hydraulic loading elevator for wheelchairs; automatic doors at several strategic campus locations; and vocational placement counseling for graduates.

2. The staff:

The full-time staff consisted of two professional persons: the project director and supervisor of aides. Part-time consultant and support personnel consisted of three M. D.'s (one of whom was a urologist); four on-campus consultants with doctoral degrees in physical education, higher educational administration, sociology, and psychology; and three off-campus consultants with doctoral degrees in psychology, vocational rehabilitation, and rehabilitation counselor-education, respectively. The off-campus consultants became known as the Research Evaluation Team and this group made at least two visits to the campus in each year of the project. Their function was to provide an

objective review of the ongoing program and to write specific recommendations for the benefit of the project staff. In addition, the team also participated in the writing and review of annual progress reports.

B. Population and sample:

The total universe from which the project participants were drawn theoretically includes all students in the nation with college potential. More specifically, the St. Andrews student body throughout the duration of the project consisted of 850-950 students, nearly equally divided between males and females, from the Eastern seaboard, and approximately half from the state of North Carolina. The project population consisted of twenty-nine male handicapped, thirty-two male aides, thirty-three female handicapped, and seventy-two female aides, for a total population of one hundred sixty-six students.

A modest rise in the overall academic standing of the students admitted each year was observed but the freshman profile for the class entering in 1970 is a good representation of the local population from which the project participants were drawn. Routine admission to the college is granted under the following circumstances: the applicant is in the upper half of his graduating class; has at least 900 on the Scholastic Aptitude Tests with no less than 400 on either part; has no "D" grades in English; and is recommended by his high school counselor.

Table 1

FRESHMAN
PROFILE FOR CLASS ENTERING 1970

School Background

Public	Private	Total
174	53	227

Class Rank

Decile	Number	Percent
Top Decile	35	16
2nd Decile	32	14
3rd Decile	33	15
4th Decile	21	10
5th Decile	27	12
6th Decile	32	14
7th Decile	18	8
8th Decile	19	8
9th Decile	4	1
Bottom Decile	5	2

Table 2

SCHOLASTIC APTITUDE TEST SCORES
FRESHMAN CLASS 1970

	Men		Women	
Score Intervals	SAT-V	SAT-M	SAT-V	SAT-M
750-800	1	0	0	0
700-749	1	1	0	0
650-699	5	5	3	3
600-649	9	17	9	8
550-599	23	24	16	15
500-549	22	20	24	19
450-499	21	24	18	29
400-449	15	16	20	19
350-399	12	7	13	10
300-349	6	1	5	4
250-299	1	1	0	1
200-249	0	0	0	0

Mean Score

	Verbal	Math	Total
Male	521	573	1094
Female	494	482	976
Total Average	508	528	1035

Table 3

ACADEMIC DATA FOR FRESHMEN 1970
AND
FOR ALL PROJECT PARTICIPANTS, 1965-1970

Groups	Male	Female
High School Average:		
Handicapped	86.04	88.62
Aides	84.84	87.61
Freshmen 1970	79.38	82.04
Scholastic Aptitude Tests (S.A.T.) Verbal:		
Handicapped	522	502
Aides	499	485
Freshmen 1970	521	494
Scholastic Aptitude Tests (S.A.T.) Math:		
Handicapped	499	470
Aides	511	575
Freshmen 1970	573	482
Scholastic Aptitude Tests (S.A.T.) Total:		
Handicapped	1016	1045
Aides	1014	975
Freshmen 1970	1094	976

These data illustrate how closely the project participants over the six year period have represented the total student body of St. Andrews from an academic standpoint. This is true in spite of the fact that aides had to be accepted into the project as available and that no surplus of aides was ever accumulated in any given semester. The handicapped sample consisted of all such students who enrolled in the college even though they were routinely "phased out" of the project after they had demonstrated their ability to function independently and no longer required the services of an aide.

It would appear reasonable to generalize the findings from this project to a rather wide range of higher educational settings in view of the many common characteristics shared by college students in their various institutions. The St. Andrews sample which was studied in this project is fairly representative academically of the majority of average college students across the nation. It should be noted, however, with regard to socioeconomic background that St. Andrews draws relatively heavily from affluent, upper middle class families. Consequently, a proportionately high incidence of students come from private schools.

Initially, it was hoped that formal experimental and control groups could be utilized for study purposes but the nature of this applied research and demonstration did not permit that approach. It quickly became apparent that the project population represented the total student body in most significant respects and therefore the general college data provided a practical and meaningful control group. The second problem with a control group occurred in reference to the handicapped who required aide or attendant care regardless of their project status. Since it was felt that the aide-attendant care constituted the

single most important variable in the total setting, and since this service could not be withheld from a control group, that approach was deemed non-feasible. Still further, from a practical standpoint, all handicapped students had access to essentially the same total campus services regardless of their project status, thus making it unrealistic to consider a control group approach to the study. For example, all handicapped students utilized the counseling resources, the physical education program, the same barrier-free campus setting, and all of the many positive aspects of the project setting regardless of their particular status in the project as such.

C. Variables investigated:

The major variables investigated in this project were academic, psychological, social, physical, and vocational. A critical assumption was made and in the absence of a controlled experimental situation it must remain an assumption. Stated in two parts the assumption was, first, that handicapped students present a wide variety of deficits in the variables under study in comparison with their able-bodied peers and therefore would not be expected to perform or to achieve at the same level as their able-bodied peers; second, that aides would have a level of demand upon their time and energy which might detract from their own needs. The net implication of this two-part assumption was that if project participants maintained during college their previous personal and academic achievement, then one might assume that the experience was positive.

In view of the assumption stated above, the evaluation procedures were designed to assess the progress of project participants in

comparison with the general college population. In general, it was also assumed that any observed changes in the project participants would be roughly parallel to the changes which are concomitant with the educational-maturational process experienced by the majority of college students as they move through the four-year degree program.

The original hypotheses were submitted as follows:

1. It is hypothesized that the physically handicapped students who receive supervised assistance from student aides in conjunction with individual counseling sessions will show greater positive changes on measures of psychological and social adjustment and greater vocational adjustment, physical adjustment, and academic achievement than physically handicapped students who do not receive such assistance.

2. It is hypothesized that the students who serve as aides to the physically handicapped under supervision and in conjunction with individual counseling sessions will show greater positive changes on measures of psychological and social adjustment and greater vocational adjustment and academic achievement than students who do not render such services.

These two hypotheses were modified as indicated earlier, eliminating the control group which was implied by the phrases: ". . . physically handicapped students who do not receive such assistance" and ". . . students who do not render such services." These parts of the hypotheses were replaced with the statement: ". . . than would otherwise have been expected."

Various methods, as deemed appropriate by the project staff and Research Evaluation Team, were employed to evaluate and qualify the variables under investigation. In outline form, the variables and the

evaluation method are as follows: by groups--male, female, aide, and handicapped.

1. Academic status and progress: high school average upon enrollment at St. Andrews; Scholastic Aptitude Tests (SAT-CEEB); and grade point ratio (GPA) during college.

2. Physical status and changes: routine college health record upon admission (Appendix C); a supplementary physical health record (Appendix D); clinical observations by nurse, physical therapist, and doctors; and formal muscle tests for the handicapped.

3. Psychological status and changes: standardized tests and scales upon entrance into the project and when leaving the project for any reason; and clinical observation in individual counseling sessions.

4. Sociological or social status: sociograms from selected dormitory suites; clinical observations in counseling sessions.

5. Vocational matters: standardized vocational interest inventory; post-graduation follow-up by mail and telephone.

D. Data collection and analysis:

All of the above data, with the exception of entering high school average and S.A.T. scores, were gathered by the supervisor of aides and project director. Beginning or baseline data were usually obtained during the first week of the summer trial session or first week of the fall term. The testing was typically done in a group with all project participants coming together at one time in a classroom or cafeteria alcove after mealtime hours. Post-testing upon exit from the project by means of graduation, demonstrated independence (handicapped), or withdrawal from college was normally on an individual basis in one of

the project offices. Sociograms were administered in the dormitory suites under supervision of the sociological consultant.

1. Tests, scales, and other means of data collection:

a. The academic data are self-explanatory, including the nationally recognized Scholastic Aptitude Tests of the College Entrance Examination Board, Princeton, New Jersey.

b. Physical data were collected by means of the St. Andrews Health Record, Supplementary Physical Health Record for Physically Handicapped Students, and clinical observations and muscle tests of the usual type employed in rehabilitation settings.

c. Psychological data were obtained with the following instruments:

(1) Tennessee Self-Concept Scale:

(a) Norms: The standardization group from which the norms were developed was a broad sample of 626 people. The sample included people from various parts of the country and age ranges from 12 to 58. There were approximately equal numbers of both sexes, both Negro and white subjects, representatives of all social, economic, and intellectual levels from 6th grade through the Ph. D. degree. Subjects were obtained from high school and college classes, employers at state institutions and various other sources.

(b) Reliability: Data is based on test-retest with sixty college students over a two-week period and coefficients for separate scales range from .61 to .92. A shortened version of the Scale with psychiatric patients yielded a reliability coefficient of .88 for the total positive score.

(c) Validity: Content validity is based on unanimous agreement by the judges that an item was classified correctly. As a discriminator between groups of psychiatric patients and non-patients, the Scale differentiates at the .001 level for most scales. Correlations with the Minnesota Multiphasic Personality Inventory are in directions that could be expected from the nature of the scores. Correlations with the Edwards Personal Preference Schedule are quite low except that extreme high and extreme low scores are close on both Instruments.

(2) The Minnesota Multiphasic Personality Inventory is a widely used instrument for distinguishing normal from pathological populations. The research studies on the M.M.P.I. are too extensive for summary here.

(3) Attitudes Toward Disabled College Students was administered to project participants near the beginning of each project year, with continuing participants given re-tests each year. Reference is made to an unpublished dissertation for technical data: Auvenshine, C. D., "Attitudes Toward Severely Disabled Students," University of Missouri, 1962.

d. Sociological data were obtained from observations, interviews, and a locally developed sociogram consisting of four questions regarding most desired "friend," "confidant," "leader," and "most friendly."

e. Vocational data were obtained by means of the Job Satisfaction Inventory (Johnson, 1955) but this yielded such scattered returns that final emphasis was given to telephone follow-up contacts with graduates. The Strong Vocational Interest Blank for Men and

Women has a well-established reputation in vocational psychology and needs no elaboration in this report.

2. Statistical techniques:

All data were key-punched on standard IBM cards and various appropriate tests of significance were computed. Overall, there were either t-tests or analysis of variance programs run among and between all groups: aide, handicapped, male, female, project, and general college.

III. RESULTS

In this section we will present the major findings of the project. The presentation will follow the same general outline as given above in the discussion of variables to be investigated. Data will be given from each area in either tabular or narrative form, or both, whichever form is more appropriate to the material being presented. In those areas in which the data are too extensive for tabular summary in the body of this report, such detailed tables will be found in the appendix. This is particularly true for the extensive psychological test data and the many statistical comparisons which have been made between various groups of subjects in the project.

Academic data will be given first, followed by physical, psychological, sociological, and vocational data in that order of presentation. In view of the large amount of data which the project has generated, this report does not attempt an exhaustive analysis at the technical level. Instead, we have attempted to keep the overall purposes of a research and demonstration program in view, and have addressed ourselves to a wider audience instead. At some points we have sacrificed research sophistication for more immediately useful results. No apology is made for the fact that individual human needs were given priority over research needs when a given situation required us to make a single choice. On the other hand, such choices were infrequently necessary and throughout the life of the project we were normally able to meet both the human and research needs at once.

A. Academic:

In the earlier description of the project population, we indicated that these students generally represented the total student body of St. Andrews College. It should be noted that the project participants did present somewhat stronger high school averages than did the 1970 freshman class. On the other hand, the project males came to the college with lower Scholastic Aptitude Test scores, while the project females were higher than the 1970 freshmen on that measure. Table 4 illustrates the fact that all project participants had greater academic achievement than general college students, regardless of entering academic status. For example, upon graduation project participants had grade point averages ranging from a low of 2.55 for male aides to a high of 2.76 for female handicapped. These compare favorably with the overall 1971 graduate average of 2.52.

It is further noteworthy as a scholastic achievement of the project participants as a group that a considerably higher percentage graduated from college than did typical college students. Thus we find a range of 61 per cent for male handicapped to 85 per cent for male aides graduating from college. By way of contrast, the overall retention rate for the college is approximately 42-43 per cent.

In summary, the academic data which were obtained in this project indicate that participation in the project did not prevent such students from making significant scholastic progress. Overall, in fact, they exceeded their non-project peers in terms of academic achievement. While there is no evidence to suggest that project participation had any causal relationship to such achievement, we might speculate that some such relationship did exist. We might wonder, for example, if

Table 4

RETENTION DATA AND GRADE POINT AVERAGES UPON GRADUATION FOR PROJECT PARTICIPANTS

Subjects	Total Number	Withdrawn	Currently Enrolled*	Number Graduated	Percent Graduated**	G.P.A. Upon Graduation
Handicapped						
Male	29	9	6	14	61%	2.63
Female	33	10	5	18	64%	2.76
Total	62	19	11	32	63%	
Aides						
Male	32	4	6	22	85%	2.55
Female	72	19	13	40	69%	2.70
Total	104	23	19	62	73%	
All Subjects	166	42	30	94	69%	

* Does not include prospective students for Fall Term, 1971.

** Calculated after subtracting currently enrolled students from total number.

involvement in the project did, in fact, provide a direction or meaning to participants' lives which tended to facilitate rather than retard their academic progress.

B. Physical:

All project participants had access to the college health center as students of the college. In addition, the project nurse and physicians maintained a close contact with the handicapped students. Special attention was given to health problems such as pressure sores and accidental injuries due to the absence of sensation. The project urologist was utilized regularly on referral by the nurse and physicians in each case in which a urinary tract infection was suspected. As a result of this routine surveillance, it was possible to prevent many critical physical health problems from developing.

Two students withdrew from college as a result of complications arising from pressure sores. One of these two later returned to finish her degree and then entered graduate school.

During the total project period there were four deaths among students who were, or had been, participants in the project at one time. Three of the students had enrolled in the college with progressive, congenital problems and were diagnosed as having essentially zero life expectancies prior to their arrival at the college. The fourth student had a critical cardiac condition and had undergone open heart surgery prior to enrollment. In each of these cases, the parents or guardians had been completely open and frank in their evaluation of the high risk involved with their son or daughter. They also indicated later, with no

reservations, that the brief college experience for their child had been a completely worthwhile experience in spite of the ultimate loss.

In the early phase of the project, the participants tended to use the health services to a greater extent than other college students. For example, project handicapped averaged 6.47 visits to the health center per academic year; aides, 3.14 visits; and regular students, 1.84 visits. This tendency was no longer present during the last year of the project, but the overall student population had increased the average number of visits to the health center to 2.47 for the 1970-71 academic year. The early phase statistic is apparently due to an extreme number of visits from one or two handicapped students who not only had unusual physical-medical maintenance problems, but also some possible psychological dependency traits.

In the beginning of the project, staff members had no formalized way of evaluating the physical condition or needs of a prospective handicapped student. Parents tended to minimize the actual physical care requirements of their son or daughter, making it quite difficult to obtain an accurate picture of the student's needs. This tendency was not so much a deliberate distortion of facts as it was a result of their own familiarity with the problem and inability to see it objectively. Neither can one discount the intense anxiety of parents and their zeal to give a handicapped offspring every opportunity for obtaining an education.

In addition to the regular college health record required of all prospective students (Appendix C), a supplementary list of questions (Appendix D) was developed by the project staff. With this information in hand, the staff could evaluate a prospective student's level of

Table 5

SUMMARY OF DISABILITIES
CENSUS--SPRING 1971

	Number of Students
Mobility	
Wheelchair:	
quadriplegics	11
paraplegics	10
Crutches	1
Braces	2
Disabilities	
Polio	10
Accidents	6
Cerebral Disorder	7
Hearing Loss	3
Vision Limitations	3
Spina Bifida	1
Muscular Dystrophy	3
Heart Disease	2
Diabetic	4
Congenital Deformities	1
Epileptic	4
Orthopedic Problem	19
Dyslexia	1
Allergies	13
total	79

Male, 48; Female, 31

functioning with a fairly high degree of accuracy. By this method, a preliminary advance decision could be made concerning an applicant's ability to function in this setting. Experience demonstrated over the years that such decisions were correct in the great majority of cases. Table 5 shows that a wide range of disability was still present on campus during the last project year.

The summer trial session was the final screening process from a physical standpoint. For the handicapped, this involved an individual evaluation by a physician and a physical therapist upon their arrival on campus. The final test was a more pragmatic one, however, in which the student found out for himself whether or not he was able to meet the physical demands of a regular course load and all related tasks.

In summary, we again refer to academic retention data as evidence for physical progress as well. Aides and handicapped both presented better academic records and graduation rates than did the general student body. Physically, in terms of project results, these records mean that the project structure provided adequate medical-physical coverage which, in turn, allowed the students to devote necessary time to study. The full implication of this statement can be understood only in reference to the acute physical needs which were experienced by the handicapped and the support given by their aides. Instead of using physical needs as excuses for below average production, project participants met their needs individually and in teams of handicapped-aide and then went on to better than average academic output. Finally, it should be noted that all handicapped students also met the physical education requirements of the institution through adapted activity programs rather than through lecture courses.

C. Psychological:

1. Tennessee Self Concept Scale. These data are presented in Appendix E, with separate tables for males, females, aides, handicapped, and general college subjects. Local norms were developed for the instrument and the sex differences were sufficiently large so as to justify separate analysis. Handicapped norms are also available as a result of the project, the major point of difference with able-bodied being found in Column A scores, Physical Self. This score was consistently lower for the handicapped.

An overall impression gained from these data is that project participants, aide and handicapped of both sexes, tend to present a more healthy self-concept than that of the general college population. The project participants also scored significantly lower, on the whole, on the empirical scales: Defensive Positive, General Maladjustment, Psychosis, Personality Disorder, Neurosis, and Personality Integration.

Looking further, we note that certain specific differences exist between male groups on the Tennessee Self Concept Scale. The Row Total Variability score is lower for the handicapped than for general college males. This tends to indicate that the handicapped were more certain about their identity and that a closer correspondence prevailed between their actual behaviors and their identities as self-perceived. As noted above, the Physical Self score is typically lower for handicapped as opposed to the able-bodied. This is probably best understood as a reality factor in which the handicapped faces his physical limitations as such rather than interpreting the score as having a special psychological significance.

The general college male population tended to use a neutral response category more than the project participants did on this scale, possibly suggesting less certainty about themselves as a group. This also tends to indicate less congruence or consistency between their behaviors and how they perceive themselves. The aides as a group have higher Personality Disorder and Neurosis scores than the general male sample and this may be related to the aides' tendency to have a moralistic view of themselves--a compulsion to be in a helping role. On the pre- and post-testing comparisons, male aides did show a marked reduction in Row Total Variability and on the Psychosis scale.

Female aides have higher scores than their general college counterparts on Social Self and Personal Self and use less neutral response categories. The handicapped females have higher Personal Self scores than the aides and lower Defensive Positive scores.

This scale has suggested that the project participants on the whole tended to have a better personal adjustment and more accurate, congruent self-concepts than the general college population. In addition to this selection factor initially, the project participants also tended to show greater gains in a positive sense during their experience in the project than did their fellow students who were not directly associated with the study.

2. Minnesota Multiphasic Personality Inventory. All project subjects were tested on the MMPI and these data are given in Appendix F. Usually the first testing was done as early as possible after the person entered the project. Whenever possible, a second testing was done at the time the person terminated in the project for any reason. The time

between initial testing and second testing varied considerably among the individual subjects. Usually several months intervened between the testings.

The pre- and post-test results were compared on all the MMPI scales for each of the four treatment groups--male, female, aide, and handicapped. Pre- and post-mean scores for each scale were compared by the t-test. Several differences were found which are statistically significant beyond the .05 level of significance.

For the combined project females (aide and handicapped), the Hs, Hy, and Mf scores changed significantly. The Hs and the Mf scores were higher on the post-test. The Hy score was lower on the post-test. This indicates that as a group the females become more sensitized and concerned about the body function, less "effeminate," and less inclined to use the disability as a defense mechanism by somatizing or converting their personal inadequacies to a debilitated body condition.

The female aides' scores changed only on the Hy scale. That was in a downward direction. Again, this might be interpreted as a lessening of the tendency to "convert" to a defective body part some other aspect of themselves which might be unacceptable as a defense mechanism.

The handicapped female group had lower scores on both Hy and Pd scales. The lowering of Hy was interpreted above for the other two female groups. The lowering of the Pd scores probably indicates a tendency toward less rebelliousness, less exploitation of others, and a willingness to get closer to other people emotionally.

Among the male handicapped, lower scores were obtained on Hy and Ma scales. The Hy has been interpreted above. The lowered Ma reflects a reduction in hypermanic activity, likely a function of "settling in" or making an adjustment to college life.

The male aides' scores changed on several scales, a lowering in each case except for K. That scale came up on the post-test indicating the need to present oneself in a favorable way, a kind of defensiveness. The other changes, all in a downward direction, were on D, Hy, Pd, Pa, Pt, Ma, Si, and dependency. The lower D indicates less worry and depression. The Hy indicates less somatization, lower Pd indicates willingness to get involved more emotionally and intimately with other people, less rebelliousness, and less tendency to use others.

The lowered Pa indicates a lowered concern for what others think about one, less sensitivity to the feelings of others. The lowered Pt indicates a tendency toward greater flexibility or less rigidity. The lower Ma indicates the dropping out of some of the hyperactivity as a defense mechanism. The lower Si indicates a tendency toward less social introversion or more social outgoingness. The lowered dependency score indicates less dependency or more self-sufficiency on the part of the aides.

Some of the findings above might have been anticipated between pre- and post-testing. Most of the changes, if not all of them, could be said to be in a favorable or healthy direction. Since there is no control group of non-project subjects it is impossible to attribute the changes to the project. Probably some of the changes are attributable to the project while others are a result of exposure to and interacting in a college milieu and of the maturation and adjustment process. It is interesting to note, too, that greater changes occurred for some groups than for others. Also most change occurred on scales which pertain either to anxiety and depression (and the methods used for their control) or to the process of relating to others. Likely this is because

these phenomena are most closely associated with the presence of a disability such as paraplegia or quadriplegia. Also, these are more transient and subject to change as compared to scales which have to do with psychoses and personality disorders.

3. Attitudes Toward Disabled College Students. This scale was used throughout the project as a means of examining basic attitudes toward the handicapped participants. In addition to a general college sample on this scale, all project participants were tested, including the handicapped. Higher scores on the scale indicate more favorable or positive attitudes toward the handicapped and females generally make higher scores than males although not in every instance. Table 6 below shows the rather wide range of scores which have been made by the several groups on this scale.

The most interesting finding with this scale is the declining scores over time made by all project aides, male and female. This "less favorable" attitude picture can hardly be taken at face value but should probably be interpreted as increased honesty. As the aides became more familiar with the handicapped as human beings they were increasingly willing to point out faults and to criticize the handicapped as friends. If this is the case, the less protective attitude is a positive by-product of the project experience.

Table 6

ATTITUDES TOWARD DISABLED COLLEGE STUDENTS

Group	Mean	S.D.
General College Males (N=66)	74.44	21.26
General College Females (N=87)	79.10	18.43
Female Aides (N=63)		
First year	85.23	22.32
Second year	82.17	24.09
Third year	69.62	21.86
Male Aides (N=27)		
First year	89.64	17.88
Second year	84.54	19.59
Third year	81.75	16.86
Female Handicapped (N=34)		
First year	84.56	15.23
Second year	85.00	19.52
Third year	94.00	28.55
Male Handicapped (N=21)		
First year	83.62	19.82
Second year	77.11	18.66
Third year	68.50	36.61

D. Sociological:

The complex interactions between handicapped and aide, project participants and general college students did not lend themselves to objective analysis. The more crucial incidents between individuals and groups certainly occurred in the privacy of dormitory rooms or in the many hours of informal social contact throughout the campus. Thus the project staff was faced with an exceedingly difficult task in the evaluation of sociological and social factors related to the study. In addition to clinical observation of individuals by staff members, oral reports from residence directors and faculty members, and similar means of gauging a student's total adjustment, a careful study of dormitory suites was made with a sociogram and the Minnesota Multiphasic Inventory. The results of that approach to the problem are reported in the following paragraphs.

The total group of handicapped, aides, males, and females were divided in two groups (approximately half of the subjects in each group), the most and least popular subjects according to the ratings received by their peers on the sociometric device. Then the high popularity and low popularity persons were compared on the MMPI scores within each of the four subject samples. Table 7 below includes the mean MMPI scores for the high and low groups. No test of significance was done due to the smallness of the N used in deriving the mean for some of the cells. However, some of the differences are great enough and consistent enough among categories that they seem to indicate some real differences. Because of the smallness of the N, any interpretation of this set of data must be a very conservative one.

The MMPI scores which best differentiated high and low groups were the D, Mf, Sc, Ma, Si and the Navran "Dependency" scale. The low groups were generally higher on D, Mf, Si, and Dependency. The high groups were higher on Sc and Ma. Assuming that these findings are real, the low popularity subjects as a group were more depressed, more withdrawn socially, and lacking in sex role identification to a greater extent. Also the low popularity aides, both male and female, expressed more dependency than the high group. On the other hand, the high popularity group for the male handicapped appeared to be more dependent than the low group. The high popularity group generally was more hypermanic and engaged in fantasy to a greater extent.

Table 7

MEAN MMPI RAW SCORES FOR
HIGH AND LOW POPULARITY GROUPS

	L		F		K		Hs		D		Hy		Pd	
	Hi	Lo	Hi	Lo	Hi	Lo	Hi	Lo	Hi	Lo	Hi	Lo	Hi	Lo
Female Handicapped	3.1	4.6	4.6	3.6	15.5	16.9	6.0	5.4	18.5	19.5	21.2	21.2	16.2	15.4
Female Aides	2.7	4.3	5.4	6.1	14.4	16.9	7.0	5.9	15.8	21.4	22.4	23.7	15.1	15.0
Male Handicapped	3.2	3.0	4.8	2.5	16.2	16.5	5.6	4.7	20.6	17.5	20.8	23.2	17.6	15.0
Male Aides	4.0	2.5	2	5	19.5	13.5	2.2	6.2	16.2	19.7	23.5	22.5	13.7	17.7

	Mf		Pa		Pt		Sc		Ma		Si		Dep.	
	Hi	Lo	Hi	Lo	Hi	Lo	Hi	Lo	Hi	Lo	Hi	Lo	Hi	Lo
Female Handicapped	34.7	38.5	9.9	9.8	12.1	12.6	14.2	11.7	20.0	16.9	18.7	25.9	21.2	21.1
Female Aides	34.9	41.1	11.0	9.7	13.5	13.9	15.3	12.9	20.4	16.9	19.5	28.4	20.7	23.4
Male Handicapped	26.2	27.5	8.8	8.2	12.6	8.7	15.4	7.7	18.8	16.5	24.8	21.0	16.2	10.1
Male Aides	24.0	29.2	9.7	9.5	6.7	16.2	3.7	17.0	16.2	20.2	13.7	20.2	15.7	22.2

Higher D score for low group except male Hc Mf higher for the low group Sc higher for hi group except for M aides Ma higher for hi group except for M aides Si higher for all low groups except male Hc	Dependency scores higher for: lo male aides hi male handicapped lo female aides

In summary, the sociological data for all project participants, coupled with clinical observation of their progress, tend to present a positive picture. It should be noted that nearly all elected student offices were held by handicapped students and by aides at some point during the life of the project. Participation in the study did not isolate the students and disability as such did not prevent such students from having a fully rounded college experience.

E. Vocational:

Project results in this area are of two general types: test profiles which are found in Appendix G and vocational placement information which will be reported in this section.

There are several points of difference on the Strong Vocational Interest Blank between handicapped and general college males. The handicapped males score higher on the occupational scales for banker, public administrator, sales manager, school superintendent, and social science teacher. They score lower than general college males on the architect, biologist, engineer, and physician scales. It appears that the handicapped tend to favor occupations which involve people in relationships which are relatively well structured and roles are clearly defined. They also appear to lean toward a somewhat aggressive and manipulative role in comparison to the general college males.

Handicapped females show fewer significant differences than males, with higher scores on English teacher and psychologist, lower scores on physical education teacher in high school. The handicapped females may be more introspective than the able-bodied females as a group.

When male aides are compared with the general college males, there are several distinct differences which suggest definite personality or temperament trends. Aides more frequently choose occupations which involve nurturing, service, one-to-one, and introspective relationships with others. They are more aesthetic and health sciences oriented than the general population and score higher in human relations occupations, social work, and physical therapy. In addition, they consistently avoid occupations which require considerable attention to detail or tasks which are "things oriented." Aides as a group are less aggressive in their human relationships, less dominant, less manipulative of people, and even less group minded on the whole. They avoid occupational roles which are sales oriented in any sense.

Female aides score higher than general college females on engineer, home economics teacher, nurse, occupational therapy, physical therapy, college and high school physical education teacher, physician, psychologist, social worker, and YWCA secretary. They score lower on buyer, life insurance saleswoman, office worker, and stenographer-secretary. There are similarities between the occupational preferences of the male and female aides with both emphasizing the health sciences and the non-aggressive, nurturing role. Female aides also reflect the same disinterest in details as do the male aides.

The vocational placement of project participants has been consistently good from the beginning. Information for the class of 1971 is not yet compiled and general alumni records are not complete. For project participants, however, through the class of 1970, there has been nearly 100 per cent vocational placement.

One handicapped female was not placed during the year following her graduation from St. Andrews. This student was a transfer to the college after two years of junior college. She had a marginal psychological adjustment and a marked dependency on her parents in comparison with the majority of handicapped students. According to project records, all other handicapped graduates had found some type of employment or, in the case of females, two were married and established as homemakers.

The types of work found by handicapped graduates do not fit a pattern as such but tend to represent the occupations filled by the total graduating classes. Project handicapped are placed in accounting, data processing, news writer, teaching, medical technology, vocational rehabilitation counselor, retail sales, handicapped taxi service, and counselor for Goodwill Industries. Eight handicapped graduates went on to further education in the following fields: theology, philosophy, rehabilitation, law, religious education, and music education. Examination of the available alumni data for the total institution indicates that these various vocational placements closely parallel those of the general student body upon graduation.

Project aides have also pursued a wide variety of occupations, but on the whole their placements have reflected the interests reported earlier in reference to the Strong Vocational Interest Blank. In comparison to the general alumni, aides have more frequently found placement in the human relations and service oriented occupations. While available records do not permit statistical comparisons as such, the trend is quite clearly in support of the vocational interest profiles. In other words, predictions could be made with some confidence as to the types of employment to be chosen by aides upon their graduation. They

more frequently choose the ministry, medicine, teaching, coaching, health services, and counseling than do the general college graduates. They more frequently reject accounting, sales, management and similar occupations than do the general college graduates. While these vocational findings are not particularly surprising in themselves, they do tend to authenticate the total project analyses.

IV. DISCUSSION AND IMPLICATIONS OF RESULTS

The original facilities at St. Andrews College were designed to eliminate architectural barriers for students who had difficulty with mobility on campus. However, the findings of this project have contributed greatly to a continuation of this concept and yet have shown the need to be continually alert to oversights in actual construction practices. For example, a new teaching auditorium was constructed during this project period and no internal ramps were included. As an outgrowth of the project there is continued evidence of changes in physical plant. Sliding doors have been installed in the Student Center, Physical Education Building, Library, Liberal Arts Building, and Science Building. Remodeling of bathroom facilities both within the dormitories and other buildings has occurred. In addition, placement of telephones, water fountains, and work desks reflects the needs of the physically handicapped. A second auditorium was remodeled and ramps and stations for wheelchairs were provided.

Since one of the unique factors of this project was the use of student aides, a major concern pertained to selection, retention, and instruction of these personnel. Aides were administratively chosen and regular, weekly orientation periods were conducted early in the program. It was discovered that this approach was not feasible and that it created an administrative-project-personnel conflict. Investigation of this difficulty revealed that a self-selection process between handicapped and aides is feasible and desirable. In other words,

FILMED FROM BEST AVAILABLE COPY

insofar as possible, the project office served as a clearinghouse for aides and handicapped. The better morale of project participants appeared to be a direct influence to the self-selection process. We found this to be particularly true for female aides. Nevertheless, when more student-to-student selection was employed the quality of aides improved.

One observable aspect of the outcome of this project is the attitudes of non-handicapped students toward the handicap. The camaraderie on campus between these two groups is noticeably high. There is a cooperative spirit among all students to provide assistance when needed, whether the person is a designated aide or not. The effect upon attitudes toward handicapped students was demonstrated in a study by the Project Director and Alvin H. Smith (1970; Appendix H). A significant difference was found in attitudes toward the disabled among students who were exposed to the presence of such students and those who were not exposed. This difference, a change to a more positive attitude, was more prevalent among females than males.

One might have expected the following problem but mention of it is highly desirable. This problem has to do with mechanical housekeeping chores. Delicate equipment such as electric-drive wheelchairs require constant repairs--both major and minor. The only solution to this problem seems to be the provision of someone on campus who is skilled in such mechanical techniques.

The summer trial program was successful and is highly recommended as an integral part of the admissions program. While only two of ten summer-on-trial in 1970 were not granted admission, the total program was a success.

One negative finding that should be noted was the publicity St. Andrews received throughout the United States caused a rash of applicants from physically handicapped students who had been refused admission to other colleges. This made the admission selection of great import. It would have been possible to overcrowd the facilities and staff with too great a proportion of handicapped students. A balance of special students to the total student population was observed.

After serious consideration concerning the use of physical facilities by the handicapped, it was decided that a maximum of approximately three per cent of the student body could be handicapped. This conclusion was based upon variables such as having only one handicapped student per dormitory suite, fire and safety hazards, available medical facilities, classroom congestion, and extra time demands upon professors. Ultimately, the philosophical foundation for having a quota was found in the desire to offer handicapped students a fully normal college experience without a rehabilitation or medical atmosphere which might be created by larger numbers of handicapped.

Adaptive Physical Education and Driver Training were highly successful in the program. This required cooperation of teaching personnel as well as staff but this cooperation again supports attitudes change which occurs when the presence of an organized program for handicapped is present and the college community meets and works with all students on an individual basis.

In the original proposal it was recommended that formal counseling sessions be required for aides and handicapped. It was felt that additional personality problems would occur because of the special

conditions of the contact and use of aides. This practice was discontinued and yet a positive conclusion was apparent. All these students needed was to be treated in terms of the individuality and not as a special group or a unique problem. Individual counseling was available should one desire to seek this service. Required weekly meetings also failed for the same reason. A special academic, credit course was implemented in the spring, 1968, but did not produce the desired results. Once again, it appears that personal, one-to-one involvement provides the human nourishment needed.

The final result of this study appears to be the success rate of the handicapped, specifically as it relates to graduation. In addition, the placement of those who graduate is an important factor.

In conclusion, the demonstration of the use of student aides to provide assistance to physically handicapped students in higher education was an overwhelming success. It appears to be feasible as well as desirable and the aides appear to have profited from the experience as well as those who were classified as handicapped.

V. SUMMARY

Student aides were assigned to handicapped students in this study. With this formal program of services for the handicapped students, it was possible for students with disabilities up to, and including, quadriplegia to make satisfactory progress at this institution. At the same time, other students with physical limitations also made satisfactory progress using random, volunteer student help. It appears that some handicapped students are able to function on an architecturally barrier-free campus with or without formal assistance in their activities of daily living. Assistance as such, however, appears to be an absolute need for many students, even though it may be obtained on an informal basis. Quadriplegic students all received formal student aide and adult attendant services throughout the duration of this study.

Probably the single most important principle which evolved from this study was the desirability of having a mutual self-selection process between handicapped and prospective aides. New students in their first semester had no basis for selecting an aide and administrative assignments were made as needed. All returning students after one semester, however, chose each other in this critical relationship. The majority of interpersonal conflicts were resolved in this way; the participants had invested in the relationship by making the original choice themselves.

As a general rule, student aides should not be required to meet the total nursing needs of a physically dependent student-peer but adult

attendants are more appropriate for this level of care. A combination of student aide for daytime assistance, coupled with an adult attendant for early morning and evening personal care, appears to be quite satisfactory.

Handicapped students should be screened for admission through a summer trial program which coincides with regular summer school dates and the trial should also extend for a similar length of time. It is also desirable that rising high school seniors should be screened whenever possible, thereby giving them an additional year to make alternate plans or to receive further therapy if needed.

Levels and types of disability to be served by an institution will largely determine what types of staff and services will be required. A major policy decision prior to the establishement of any program of services must be made in this respect. The basic issue is whether or not the institution proposes to accept and to serve any applicants who will require essentially total nursing care. The implications of this policy decision are obvious. On the other hand, regardless of the levels of disability to be served, a central office is desirable. A counselor-coordinator of services and a supervisor of aides are minimum staff needs. Such an office serves as a clearinghouse for handicapped students who need aides and students with financial need who are interested in receiving an aide assignment. When this approach is taken, handicapped students pay for aide services through the rehabilitation office rather than dealing directly with their roommate-aide. This approach tends to facilitate the roommate relationships for both parties.

Typical dormitory settings are inadequate for the total nursing care which is required by quadriplegic students. Provision should be made for private baths and more space in rooms for special equipment such as Hoyer lifts and extra wheelchairs.

Finally, there is an important principle in dealing with handicapped students and their aides as described in this report. They require an essentially individual approach in all phases of the program and will typically ignore group tactics. Group meetings of aides or handicapped are seldom useful in a program of this type, but personal counseling and supervisory contacts will be utilized regularly.

REFERENCES

Anthony, William A. The effects of contact on an individual's attitude toward disabled persons. Rehabilitation Counseling Bulletin, 1969, 12, 3, 168-171.

Auvenshine, C. D. The development of a scale for measuring attitudes toward severely disabled college students. Unpublished doctoral dissertation, University of Missouri, 1962.

Butcher, James N. (Ed.) MMPI: Research developments and clinical application. McGraw Hill, 1969.

Cochran, W. G., and Cox, G. M. Experimental designs. John Wiley & Sons, 1960.

Condon, Margaret E. Ten year survey of physically handicapped students at the City College of New York. Personnel and Guidance Journal, 1957, 36.

Dunn, Marilyn. Satisfaction with social relationships of college students who are physically disabled. Unpublished doctoral dissertation, University of Illinois, 1967.

Eber, Herbert W. Multivariate analysis of a vocational rehabilitation system. The Society of Multivariate Experimental Psychology, Inc., Birmingham, Alabama, 1966.

Ferguson, George A. Statistical analysis in psychology and education. McGraw Hill Co., New York, New York, 1966.

Fitts, William H. Tennessee Self Concept Scale Manual. Counselor Recordings and Tests, Nashville, 1965.

Fitts and Hammer. The self-concept and delinquency. Marshall & Bruce Co., Nashville, Tennessee, 1969.

Goldin, George, et al. Dependency and its implications for rehabilitation. Northeastern Studies and Vocational Rehabilitation, Boston, Massachusetts, April 1967, Monograph #1.

Hathway and McKinley. Manual for the Minnesota Multiphasic Personality Inventory. The Psychological Corporation, New York, New York. Revised 1957.

Homans, G. C. The human group. Harcourt Brace and World, New York, 1950.

Insko, C. Theories of attitude change. Appleton-Century-Crofts, New York, 1967.

Johnson, G. An instrument for the measurement of job satisfaction. Personnel Psychology, 1955, 8, 27-37.

Jordan, J. E. Attitudes toward education and physically disabled persons in eleven nations. Latin American Studies Center, Michigan State University, 1968.

Lofquist, Lloyd H. (Ed.) Psychological research and rehabilitation. American Psychological Association, Washington, D. C., 1960.

Mase, Darrell J., and Williams, Charles F. The assessment of college experience of severely handicapped individuals. University of Florida, 1964.

Morrow, J. C. (Planning Director) Final report of comprehensive statewide planning for vocational rehabilitation services in the state of North Carolina. Division of Vocational Rehabilitation and North Carolina Commission for the Blind, Raleigh, N. C., 1968.

Muthard, John E., and Miller, Leonard A. The criteria problem in rehabilitation counseling. The University of Iowa, Iowa City, Iowa, 1966.

Navran, Leslie. A rationally deprived MMPI scale to measure dependency. Journal of Consulting Psychology, 18:3, 1954, p. 192.

Rusalem, Herbert. Guiding the physically handicapped student. Columbia University, New York, 1962.

Schuman, H., and Harding, J. Sympathetic identification with the underdog. The Public Opinion Quarterly, 1963, 27, pp. 230-241.

Stone, J. Blair. The Edwards Personal Preference Schedule and physically disabled college students. Rehabilitation Counseling Bulletin, V. 9, No. 1, September, 1965.

Tucker, William V. Higher education and handicapped students. Kansas State Teachers College, 1964.

Tucker, William V. The personality traits of physically disabled students as measured by the Edwards Personal Preference Schedule. Rehabilitation Counseling Bulletin, V. 7, No. 3, March, 1964.

Urie, Robert M., and Smith, Alvin H. The effects of peer contact on attitudes toward disabled college students. Journal of Applied Rehabilitation Counseling, I, 1970, 4, 24-32.

Welsh and Dahlstrom. Basic readings on the MMPI in psychology and medicine. University of Minnesota Press, Minneapolis, Minnesota, 1956.

West, Devone R. A comparison of the psychological needs of disabled and nondisabled college students and adults. Lubbock, Texas, 1965 (Mimeographed).

Wright, Beatrice A. Physical disability--a psychological approach. Harper, New York, 1960.

Yuker, H. E., Block, J. R., and Younng, Janet. The measurement of attitudes toward disabled persons. Human Resources Study No. 7, Human Resources Foundation, Albertson, New York, 1966.

APPENDICES

A. Student Aide Agreement

B. Physically Handicapped Student Agreement

C. St. Andrews Student Health Examination Record

D. Supplementary Physical Health Record for Handicapped Students

E. Tennessee Self Concept Scale

F. Minnesota Multiphasic Personality Inventory

G. Strong Vocational Interest Blank

H. The Effects of Peer Contact on Attitudes Toward Disabled College Students

APPENDIX A

STUDENT AIDE AGREEMENT

REHABILITATION PROJECT

ST. ANDREWS PRESBYTERIAN COLLEGE

NAME: _____

HOME ADDRESS: _____

CLASS: _____

WORKSHIP: $_____

The following statements constitute an understanding of the mutual responsibilities shared by the Rehabilitation Project Staff and the students who participate as aides to the handicapped.

1. Participation in the project will not require changes in your academic program except as otherwise might be appropriate outside the scope of the Rehabilitation Project.

2. Participation in the project commits you to serve the purposes of the project as most important in your routine, second, of course, to your academic and personal health considerations. Your relations to the project, the project staff, and other participants will be in keeping with guidelines approved by the professional staff. While you are expected to assist the handicapped in a number of ways, you will not ordinarily be required to perform extremely personal, intimate, or professional-type tasks unless approved by the project staff with your consent.

3. Your specific duties are assigned by the Supervisor of Aides in conference with your handicapped partner. It is understood that your role may be subject to revision from time to time in conference with all parties concerned.

4. You will also participate in regular individual conferences with the Project Director and Supervisor of Aides when required.

5. It is further understood that the Rehabilitation Project is primarily a study of the use of student aides for the handicapped, which at the same time provides essential services for such students in residence at the College.

6. It is understood that participation in the project involves the knowledge of confidential information on the part of each participant. Such information is released only to authorized professional personnel for purposes of the study.

7. Participation in the project will assure you of the workship shown above assuming that your performance is satisfactory in the judgment of the project staff.

8. It is further understood that you as a participant in this study are not obligated to additional fees or charges not currently understood for your attendance at St. Andrews. Services by the project staff are to be provided to you without charge when and as scheduled and approved by the Project Director for purposes of the study.

_____
Signature of Student Participant

_____
Signature of Parent or Guardian

_____
Mrs. Alice McKenzie, R.N.
Supervisor of Aides

_____
Robert M. Urie, Director
Rehabilitation Services

Date: _____,19__

Date: _____, 19_

(Student Aide: Please return one copy signed).

Form: RS: 7-70

APPENDIX B

PHYSICALLY HANDICAPPED STUDENT AGREEMENT

REHABILITATION PROJECT

ST. ANDREWS PRESBYTERIAN COLLEGE

NAME: _____

HOME ADDRESS: _____

CLASS: _____

The following statements constitute an understanding of the mutual responsibilities shared by the Rehabilitation Staff and the students who participate in the project.

1. Participation in the project will not require changes in any student's academic program except as otherwise might be appropriate outside the scope of the Rehabilitation Project.

2. Student roommate aides are assigned by the Project Staff where needed and are directly responsible to the staff. Aides are expected to assist the handicapped in a number of ways but they will not ordinarily be required to perform extremely personal, intimate, or professional-type tasks unless approved by the project staff with the aide's consent.

3. An essential aspect of this project consists of standardized testing in the areas of interest, values, and self-concept under direct supervision of the project staff and each student is required to participate in all such research activities.

4. Students will also participate in regular individual conferences with the Project Director and Supervisor of Aides when required.

5. It is understood that participation in the project involves the giving of confidential information on the part of each participant. Such information is released only to authorized professional personnel for research purposes.

6. Except as noted below it is further understood that participants in this study are not obligated to additional fees or charges not currently understood for their attendance at St. Andrews. Services by the project staff and student aides are to be provided to the student participants without charge as scheduled and approved by the Project Director for purposes of the study.

7. Our experience indicates that assistance in such personal items as bathing, bathroom routines, dressing, and care of hair is more appropriately handled by adult attendants. These services are provided at the following rates subject to annual revisions:

Adult attendant care for one physically handicapped student, including laundry service. . . . . .

One 5 week Summer Term	$100.00
One regular semester, Fall or Spring	$300.00
One Winter Term	$100.00

The college assumes responsibility for the hiring, training, and supervision of adult attendants. The college also handles all administrative details including payroll deductions for F.I.C.A. and State and Federal taxes.

_____
Mrs. Alice McKenzie, R.N.
Supervisor of Aides

_____
Robert M. Urie, Director
Rehabilitation Project

_____
Signature of Student Participant

Date: _____

_____
Signature of Parent or Guardian

Date: _____

(Please return one signed copy) Form: RS:5-68

ST. ANDREWS STUDENT HEALTH EXAMINATION RECORD

Instructions to Students: Type or print your name and other information along the right-hand margin and fill in other information requested in **Part I.** Next, have parent, guardian, or spouse complete **Part II.** Then, have remainder of record form completed by a licensed medical doctor. Return the completed record as soon as possible since your application for admission requires the information requested herein. After completion of this form, and while associated with this institution, you are to notify the College Health Center or a Dean of any change in status or other occurrence which would affect the accuracy of this record and its being fully up-to-date.

Part I. Personal Data: Your date of birth:_____ Place of birth:_____

_____ Phone No._____
(Name and full address of your parent, guardian, or spouse . . . underline which)

_____ Phone No._____
(Your name and address if different from that above)

Check each disease you have had, giving approximate most recent date and whether or not the illness has required **either** bed rest **or** attention by a physician during the past three years:

Illness	Date	Bed/MD	Illness	Date	Bed/MD	Illness	Date	Bed/MD
____Appendicitis	_____	_____	____Asthma	_____	_____	____Bronchitis	_____	_____
____Chickenpox	_____	_____	____Diabetes	_____	_____	____Epilepsy	_____	_____
____Goiter	_____	_____	____Hay Fever	_____	_____	____Heart Trouble	_____	_____
____Hepatitis	_____	_____	____Kidney Trouble	_____	_____	____Malaria	_____	_____
____Measles, German	_____	_____	____Measles, Red	_____	_____	____Meningitis	_____	_____
____Mononucleosis	_____	_____	____Mumps, Partial	_____	_____	____Mumps, Full	_____	_____
____Nephritis	_____	_____	____Nervousness	_____	_____	____Pneumonia	_____	_____
____Poliomyelitis	_____	_____	____Rheumatism	_____	_____	____Sinusitis	_____	_____
____Tonsilitis	_____	_____	____Tuberculosis	_____	_____	____Typhoid	_____	_____
_____	_____	_____				_____	_____	_____

Have you ever been a patient in a hospital for any illness, injury, or operation?_____ If "Yes", list each and give dates:

Do the effects of any illness, injury, or operation persist? If "Yes", list each and describe briefly what you are doing for each:_____

_____

If you are disabled in any way, describe your handicap:_____

_____

If your handicap will necessitate special consideration in college, explain:_____

_____

List any drugs to which you are sensitive:_____

Are you covered by any accident, medical, or hospitalization insurance, either personally or in a group plan?_____

If "Yes", in whose name?_____ What Insurance Company?_____

Part II. Medical Consent and Emergency Action Agreement for student **and** parent, guardian, or spouse:

A. We hereby grant permission to the St. Andrews College Physician, or to a College Administrator with the advice of a licensed medical doctor, to authorize emergency treatment or other medical or surgical care as may be deemed necessary for the health and well-being of the student with the understanding that the parent, guardian, or spouse will be notified as soon as practicable by the attending physician or other official who may be informed of the essential information which the parent, guardian, or spouse may request:

_____ _____ _____ _____
(Usual Signature of Student) (Date) (Signature of Parent, Guardian, Spouse) (Date)

(Note to Student and Parent: A college medical or administrative official will endeavor to communicate notice of emergencies as described to the parent, guardian, or spouse before time of appropriate treatment; however, occasions do occur when a clear understanding of the need for early treatment or hospitalization is most important. College officials, therefore, need such understanding beforehand with you as outlined above).

B. We authorize, also, that annual or otherwise up-to-date immunizations as indicated be administered:

1. The following required immunizations are included as a part of your own Medical Doctor's report under **Part III** in order that immunity will be established and maintained up-to-date:
   a. Small Pox; b. Poliomyelitis; and, c. Tetanus.
2. It is desired that the following be administered and maintained up-to-date. If you desire these immunizations to be administered by the College Physician, write-in "Administer" in the space provided for each immunization desired . . . otherwise, leave blank.
   a. Influenza (annual immunization)_____
   b. Typhoid (maintain up-to-date immunization)_____
   c. Paratyphoid (maintain up-to-date immunization)_____
3. Is this student approved to give blood when he/she desires and when approved by a physician?_____

_____ _____ _____ _____
(Usual Signature of Student) (Date) (Signature of Parent, Guardian, Spouse) (Date)

(Student: Print Name . . . First, Initial, Last) (Mr., Miss, or Mrs.) (Marital Status)

When all parts of form are completed, return to the DIRECTOR OF ADMISSIONS, ST. ANDREWS PRESBYTERIAN COLLEGE, LAURINBURG, NORTH CAROLINA 28352

Part III. Report of Examination by Medical Doctor:

DOCTOR:_____ Phone No._____
(Print your Name, Office Address, City and State)

1. Student's Name:_____; Sex:_____; Age_____; Ht.:_____; Wt.:_____

2. **Eyes:** (Diseases, anatomical defects, and vision):_____
   Pupils: Light Reflex:_____; Accommodation Reflex:_____
   Color Perception (Red, Green): Normal_____ Abnormal_____
   Intraocular Pressure (Manual): Normal_____ Abnormal_____
   Fundi: Normal_____ Abnormal_____

3. Add any comments or recommendations regarding student's vision:
   _____
   _____
   _____

4. **Ears:** Hearing: Normal_____ Abnormal_____
   Defects:_____

Binocular Vision_____ Corrected to_____
Distant Vision_____ Near Vision_____
Right_____ Right_____
Corrected to_____ Corrected to_____
Left_____ Left_____
Corrected to_____ Corrected to_____
Visual Fields (Confrontation):
Right: Normal_____ Abnormal_____
Left: Normal_____ Abnormal_____

5. **Nose and Throat:**_____

6. **Dental:** Caries:_____; Gums:_____ 7. **Neck:** Thyroid_____; Nodes_____

8. **Heart:** Blood Pressure_____; Pulse_____; Rhythm _____; Size_____;
   Auscultation _____

9. **Chest:**_____ 10. **Lungs:**_____

11. **Abdomen:**_____; Hernia_____ 12. **Rectum:**_____

13. **Genito-urinary:**_____ 14. **Musculo-skeltal:**_____

15. **Skin:**_____ 16. **Neurological:**_____

17. **Laboratory Report:** Urinalysis: Spec. Gr._____; Sugar_____; Protein_____; Microscopic_____
    Blood: Type_____; Serology (Date and results)_____; Hemoglobin_____

18. **Immunizations required** (MD: Certify by entering date immunity established):
    Small Pox:_____; Poliomyelitis (Sabin oral or Salk):_____;
    Tetanus (within past two years):_____.
    List any other immunizations you can certify as current, and date each immunity established:_____
    _____ _____ _____

19. Do you consider this student to be in sound physical, emotional, and mental health?_____. If "No" (or if "Yes" with reservations as to ability to participate in a total college program), explain below:
    a. Physical health reservations (needed particularly for physical education classification):_____
    _____
    b. Mental health:_____
    c. Emotional health:_____
    d. Is this student now in consultation with, or has this student ever consulted with a Psychiatrist? (If not known, ask student, and if "Yes", enter name and address of the doctor and date(s) of consultation):_____
    _____

20. List any drugs or treatment authorized for this student at the present time and the duration of continuance:_____
    _____
    _____

21. Additional comments which may help college officials best serve the total well-being of this student (use separate paper if desired):_____
    _____
    _____
    _____

Date:_____ _____ Signatures_____, M. D.

When all parts of this examination report are complete, this form and any supplemental information believed relevant should be returned to the DIRECTOR OF ADMISSIONS, ST. ANDREWS PRESBYTERIAN COLLEGE, LAURINBURG, NORTH CAROLINA 28352.

Form: RS/ADL/68

APPENDIX D

Rehabilitation Services
St. Andrews Presbyterian College
Laurinburg, N. C. 28352

Attach full length

photo or snapshot

SUPPLEMENTARY PHYSICAL HEALTH RECORD FOR HANDICAPPED STUDENTS

(FOR USE WITH THE REGULAR ST. ANDREWS STUDENT HEALTH EXAMINATION RECORD)

INSTRUCTIONS: Please fill in with black ball point pen. Information requested below is necessary and should be recorded in detail in order that the applicant for admission or re-admission to St. Andrews will be given every consideration by college officials. If there is doubt as to the significance or relevance of any specific item, such information should be entered on this form or added on a seperate sheet.

Much time can be saved if you will have all available information relative to your medical history and physical restoration data mailed to the Director of Admissions at St. Andrews within the next few days.

Your Name: _____ Sex: _____ Date of Birth: _____

Your Mailing Address: _____

Your Weight: _____ lbs. Your Height: _____' _____" Date of disability: _____

Cause of disability: _____

Nature of disability: _____

_____

Present condition (Static, Improving, etc.): _____

Hospital, clinic, or center at which most recently treated (Name, city, state): _____

_____

_____

Name of medical doctor in charge of your case at the above place: _____

Hospital, clinic, or center, if different from above, which treated you initially: _____

Name of medical doctor in charge of your case at above place of treatment: _____

If you attended a Physical Rehabilitation Center other than listed above, where, and under whose primary attention? _____

_____

If you are on a program of therapy now, regardless of how minor or extensive, describe in detail any medicine being used or any maintenance therapy needed: _____

_____

If you are receiving financial aid from the Division of Vocational Rehabilitation, please give name and address of your counselor: _____

_____

If you are under any medical supervision or treatment now, under whom, what type, and how often? _____

_____

Describe the extent of your disability and explain any appliances, mechanical, or supportive devices being used in your daily routine: _____

_____

Relate your general functional abilities as to the specific questions below. Please give yes or no answers.
NOTE: If explanation of any question is needed, use additional paper.

1. Are you completely independent in terms of physical activity needs? _____
2. Will you need assistance with any daily or weekly activities? _____
3. Do you depend upon a wheelchair most of the time? _____
4. Do you use crutches on a regular or stand-by basis? _____
5. Do you have any hand, arm, or shoulder movement restrictions? _____
6. Do you have normal control of your bladder? _____
7. Do you have normal control of your bowels? _____
8. Can you write class assignments or take notes at a relatively normal speed? _____
9. Can you type class assignments? _____
10. Do you have a tape recorder for your personal use? _____
11. Do you have speech problems of any kind? _____
12. Do you have normal vision? _____
13. Do you have normal hearing? _____
14. Can you approach and write on a classroom chalkboard? _____
15. Can you work at a typical laboratory bench, handling usual equipment? _____
16. Do you have available from personal, family, rehabilitation agency, or other sources financial resources for payment of personal aide or maid assistance if required in the residential college setting? _____

APPENDIX D (Continued)

INSTRUCTIONS: In the space to the left of each numbered item, place a check mark only if the activity listed can be performed without physical assistance from another person. In the space to the right of each item, write in any explanatory comment which will be helpful in assessing the extent to which physical assistance may be needed.

Bed & Bedroom Activities (with or without prothesis):

_____1. Moving from place to place. _____
_____2. Roll to right and left sides. _____
_____3. Sitting erect in bed. _____
_____4. Turn over and lie on abdomen. _____
_____5. Procure objects from night table. _____
_____6. Manage pillows and blankets. _____
_____7. Change linens and make up bed. _____
_____8. Move bed and turn mattress. _____
_____9. Rearrange furniture. _____

Personal Hygiene:

_____1. Brushing hair and teeth. _____
_____2. Shaving or applying cosmetics. _____
_____3. Bathing in tub. _____
_____4. Bathing in shower. _____
_____5. Toilet routine, including cleansing. _____
_____6. Check if no catheter, special pants needed; otherwise, explain on additional sheet. _____

Dressing Routine:

_____1. Underclothes (on and off). _____
_____2. Outer garments (on and off). _____
_____3. Stockings and shoes (on and off). _____
_____4. Braces and prosthesis (on and off). _____
_____5. Handling buttons and zippers. _____
_____6. Heavy outer coats (on and off). _____

Eating and Food Service through Cafeteria:

_____1. Selecting and securing food from counter. _____
_____2. Manage cafeteria tray going through line. _____
_____3. Using spoon. _____
_____4. Using fork. _____
_____5. Using knife. _____
_____6. Handling drinking glass or cup. _____
_____7. Return dishes/tray to wash window. _____

Independent Gait (Without prosthesis or support):

_____1. Run 50 yards without difficulty. _____
_____2. Walk 300 yards without difficulty. _____
_____3. Walk backwards without difficulty. _____
_____4. Open and close doors. _____
_____5. Climb and descend stairs without rails. _____

Use of Gait Equipment or Other Mechanical Support

_____1. Walk 300 yards without difficulty. _____
_____2. Walk backwards without difficulty. _____
_____3. Open and close doors. _____
_____4. Climb and descend stairs without rails. _____
_____5. Enter and exit from automobile. _____

Locomotion with Use of Wheelchair (if one is used):

_____1. Move from wheelchair to bed and reverse. _____
_____2. Raise and lower wheelchair foot rests. _____
_____3. Propel chair forward 300 yards without difficulty. _____
_____4. Propel chair backward 10 feet and stop. _____
_____5. Lock and unlock wheelchair brakes. _____
_____6. Propel wheelchair into and out of toilet stall. _____
_____7. Move self from wheelchair to and from commode. _____
_____8. Propel wheelchair up and down ramp, stopping half way. _____
_____9. Operate elevator from wheelchair. _____

To St. Andrews College Officials: My parent/guardian and I authorize release of any and all medical information which may be needed at the request of a College Official in attempts to better serve my well-being and the welfare of the College. We hereby certify that the above information is a true and accurate record of the applicant's physical condition. We further understand that any misrepresentation on our part can result in the rejection of this application for admission to St. Andrews at any time.

_____ _____ _____
Student's Signature Date Parent's/Guardian's Signature

Return this form and supporting papers to the Director of Admissions, St. Andrews Presbyterian College.

Appendix E-1

TENNESSEE SELF CONCEPT SCALE - MALE

AIDES AND HANDICAPPED

Score	Aides (N=36) Mean	S.D.	Handicapped (N=27) Mean	S.D.	t
Self Criticism	38.31	4.76	36.81	4.87	-1.23
T/F	1.06	0.36	1.09	0.25	0.27
Net Conflict	-2.17	12.19	-0.15	13.10	0.63
Total Conflict	29.72	8.88	29.78	6.78	0.03
Total Positive	352.14	40.68	342.22	35.85	-1.02
1-Identity	128.81	11.93	123.15	10.35	-1.99*
2-Self Satis.	109.94	17.81	106.41	17.46	-0.79
3-Behavior	113.56	13.68	111.85	11.94	-0.52
A-Physical Self	73.67	8.78	64.85	14.56	-3.00*
B-Moral-Ethical	69.44	9.47	67.22	10.57	-0.88
C-Personal Self	66.08	10.29	66.07	10.07	-0.00
D-Family Self	71.06	10.08	69.74	12.88	-0.46
E-Social Self	69.61	13.40	68.26	14.84	-0.38
Total Variability	43.72	11.88	44.85	12.90	0.36
Col. Total V.	25.78	8.45	27.56	9.04	0.81
Row Total V.	18.25	4.94	17.63	5.51	-0.47
Distribution	121.50	29.86	114.63	29.08	-0.92
5	17.89	12.16	16.19	12.84	-0.54
4	24.83	9.04	23.67	8.69	-0.52
3	16.42	10.42	21.22	8.69	1.96*
2	18.64	7.76	17.07	7.26	-0.82
1	19.19	10.54	18.52	9.72	-0.26
Defensive Positive	54.92	12.44	54.89	14.60	-0.01
General Malad.	97.44	11.15	95.56	8.22	-0.75
Psychosis	44.75	6.10	47.89	5.41	2.14*
Pers. Disorder	73.44	14.00	71.93	10.78	-0.47
Neurosis	85.00	12.78	86.52	11.58	0.49
Pers. Integration	10.69	4.60	8.70	4.36	-1.75

*Significant at or beyond .05 level

Appendix E-2

TENNESSEE SELF CONCEPT SCALE - MALE

AIDES AND GENERAL COLLEGE

Score	Aides (N=31) Mean	S.D.	General College (N=28) Mean	S.D.	t
Self Criticism	38.35	5.11	38.61	5.40	0.19
T/F	1.07	0.39	0.99	0.28	-0.97
Net Conflict	-1.58	13.53	-1.46	14.31	0.03
Total Conflict	29.74	8.68	32.18	7.69	1.15
Total Positive	352.61	43.13	327.04	37.61	-2.44*
1-Identity	128.55	12.91	121.68	12.90	-2.06*
2-Self Satis.	110.32	18.59	98.89	14.43	-2.65*
3-Behavior	113.84	14.38	107.18	13.66	-1.84
A-Physical Self	74.03	8.92	68.29	7.08	-2.75*
B-Moral-Ethical	69.65	9.54	62.43	9.70	-2.90*
C-Personal Self	66.16	10.78	61.14	10.23	-1.85
D-Family Self	70.90	10.22	68.39	10.14	-0.95
E-Social Self	69.13	14.28	66.79	9.28	-0.75
Total Variability	43.23	11.63	50.43	14.30	2.15*
Col. Total V.	25.65	8.50	29.25	10.39	1.48
Row Total V.	17.90	4.66	21.18	6.36	2.29*
Distribution	122.61	30.78	109.93	23.76	-1.78
5	18.39	12.65	16.29	9.42	-0.73
4	24.13	9.02	24.21	8.61	0.04
3	16.19	10.41	22.96	9.95	2.57*
2	18.23	8.33	19.86	7.46	0.80
1	19.55	11.05	16.61	8.79	-1.14
Defensive Positive	55.45	13.32	46.93	11.93	-2.60*
General Malad.	97.10	11.67	93.29	11.57	-1.27
Psychosis	44.81	6.22	45.25	5.34	0.30
Pers. Disorder	73.74	14.44	65.57	12.82	-2.31*
Neurosis	85.10	13.61	78.61	11.10	-2.01*
Pers. Integration	10.00	4.55	9.14	4.54	-0.73

*Significant at or beyond .05 level

Appendix E-3

TENNESSEE SELF CONCEPT SCALE - MALE

HANDICAPPED AND GENERAL COLLEGE

Score	Handicapped (N=21) Mean	S.D.	General College (N=28) Mean	S.D.	t
Self Criticism	37.24	5.31	38.61	5.40	0.89
T/F	1.10	0.26	0.99	0.28	-1.45
Net Conflict	1.43	13.22	-1.46	14.31	-0.73
Total Conflict	30.48	7.24	32.18	7.69	0.79
Total Positive	340.19	35.13	327.04	37.61	-1.26
1-Identity	122.81	10.45	121.68	12.90	-0.33
2-Self Satis.	105.05	17.85	98.89	14.43	-1.35
3-Behavior	111.10	11.36	107.18	13.66	-1.07
A-Physical Self	64.62	15.64	68.29	7.08	1.12
B-Moral-Ethical	66.10	11.03	62.43	9.70	-1.25
C-Personal Self	65.62	10.31	61.14	10.23	-1.53
D-Family Self	68.38	13.94	68.39	10.14	0.00
E-Social Self	67.62	15.94	66.79	9.28	-0.23
Total Variability	45.95	13.97	50.43	14.30	1.11
Col. Total V.	29.00	9.68	29.25	10.39	0.09
Row Total V.	17.38	4.81	21.18	6.36	2.30*
Distribution	115.57	26.64	109.93	23.76	-0.79
5	16.90	11.88	16.29	9.42	-0.21
4	23.14	8.53	24.21	8.61	0.44
3	21.24	8.02	22.96	9.95	0.66
2	17.10	6.86	19.86	7.46	1.34
1	18.29	9.03	16.61	8.79	-0.66
Defensive Positive	53.95	14.33	46.93	11.93	-1.90
General Malad.	95.57	7.91	93.29	11.57	-0.78
Psychosis	47.76	5.85	45.25	5.34	-1.58
Pers. Disorder	71.43	10.30	65.57	12.82	-1.73
Neurosis	86.19	10.73	78.61	11.10	-2.42*
Pers. Integration	8.95	4.51	9.14	4.54	0.15

*Significant at or beyond .05 level

Appendix E-4

TENNESSEE SELF CONCEPT SCALE - MALE

ALL PROJECT AND GENERAL COLLEGE

Score	Project (N=66) Mean	S.D.	General College (N=28) Mean	S.D.	t
Self Criticism	38.42	4.84	38.61	5.40	0.16
T/F	1.02	0.30	0.99	0.28	-0.52
Net Conflict	-3.82	13.54	-1.46	14.31	0.76
Total Conflict	28.98	8.01	32.18	7.69	1.80
Total Positive	356.85	34.93	327.04	37.61	-3.72*
1-Identity	130.53	10.16	121.68	12.90	-3.57*
2-Self Satis.	111.45	16.53	98.89	14.43	-3.51*
3-Behavior	114.95	10.97	107.18	13.66	-2.93*
A-Physical Self	74.58	7.97	68.29	7.08	-3.64*
B-Moral-Ethical	69.17	9.11	62.43	9.70	-3.23*
C-Personal Self	67.85	9.13	61.14	10.23	-3.16*
D-Family Self	72.05	8.59	68.39	10.14	-1.79
E-Social Self	71.97	11.03	66.79	9.28	-2.19*
Total Variability	42.74	12.52	50.43	14.30	2.62*
Col. Total V.	25.58	8.41	29.25	10.39	1.81
Row Total V.	17.33	5.66	21.18	6.36	2.92*
Distribution	121.77	27.76	109.93	23.76	-1.98*
5	17.45	12.20	16.29	9.42	-0.46
4	25.68	9.21	24.21	8.61	-0.72
3	15.44	9.84	22.96	9.95	3.40*
2	20.14	7.61	19.86	7.46	-0.16
1	19.03	9.52	16.61	8.79	-1.16
Defensive Positive	57.06	11.95	46.93	11.93	-3.78*
General Malad.	100.29	9.63	93.29	11.57	-3.05*
Psychosis	42.89	6.14	45.25	5.34	1.78
Pers. Disorder	74.11	13.60	65.57	12.82	-2.84*
Neurosis	84.50	14.60	78.61	11.10	-1.92
Pers. Integration	11.55	4.70	9.14	4.54	-2.30*

*Significant at or beyond .05 level

Appendix E-5

TENNESSEE SELF CONCEPT SCALE - MALE

AIDES, PRE AND POST

Score	Pre (N=13) Mean	S.D.	Post (N=13) Mean	S.D.	t
Self Criticism	37.15	4.38	38.15	4.62	-0.58
T/F	0.99	0.19	0.98	0.21	0.17
Net Conflict	-4.38	10.29	-5.15	15.73	0.15
Total Conflict	25.77	6.51	27.77	6.92	-0.78
Total Positive	364.38	36.22	368.69	27.59	-0.35
1-Identity	132.92	10.50	133.54	8.00	-0.17
2-Self Satis.	112.77	15.83	117.23	14.85	-0.76
3-Behavior	118.69	12.26	117.92	6.69	0.20
A-Physical Self	75.38	8.96	75.31	8.07	0.02
B-Moral-Ethical	71.54	8.09	71.15	7.34	0.13
C-Personal Self	69.62	9.82	71.85	6.52	-0.69
D-Family Self	72.69	9.03	74.77	6.07	-0.70
E-Social Self	68.31	19.58	75.62	6.81	-1.28
Total Variability	42.46	14.32	36.15	7.71	1.41
Col. Total V.	25.15	9.56	22.46	6.25	0.86
Row Total V.	18.08	5.47	13.69	3.71	2.43*
Distribution	123.77	33.53	123.31	30.04	0.04
5	18.08	14.80	18.23	14.96	-0.03
4	23.15	11.64	25.69	11.26	-0.58
3	15.77	9.66	14.69	9.46	0.29
2	18.46	8.49	21.00	8.89	-0.76
1	20.69	11.22	19.62	9.74	0.27
Defensive Positive	58.92	11.87	61.77	10.77	-0.65
General Malad.	101.23	8.87	105.15	5.93	-1.34
Psychosis	45.38	7.79	41.00	5.63	1.67
Pers. Disorder	76.77	13.61	78.08	12.13	-0.26
Neurosis	88.38	12.87	81.08	23.94	1.00
Pers. Integration	11.92	4.35	12.23	5.54	-0.16

*Significant at or beyond .05 level

Appendix E-6

TENNESSEE SELF CONCEPT SCALE - MALE

HANDICAPPED, PRE AND POST

Score	Pre (N=9) Mean	S.D.	Post (N=9) Mean	S.D.	t
Self Criticism	37.22	6.36	36.33	5.77	0.32
T/F	1.07	0.30	1.07	0.20	-0.03
Net Conflict	0.67	15.26	-1.78	8.89	0.42
Total Conflict	28.44	5.92	28.00	15.03	0.09
Total Positive	354.67	34.09	343.89	31.79	0.71
1-Identity	128.33	8.44	124.56	10.21	0.89
2-Self Satis.	112.56	12.68	109.89	10.94	0.49
3-Behavior	116.67	11.75	109.89	13.61	1.17
A-Physical Self	71.78	4.79	68.56	6.95	1.20
B-Moral-Ethical	70.67	8.67	67.22	8.18	0.89
C-Personal Self	69.22	7.68	68.78	7.90	0.13
D-Family Self	73.44	4.77	71.22	4.79	1.02
E-Social Self	72.33	9.55	68.33	8.57	0.96
Total Variability	38.89	5.58	40.78	10.81	-0.49
Col. Total V.	23.11	4.48	25.00	7.68	-0.67
Row Total V.	15.89	2.76	15.78	4.58	0.07
Distribution	118.11	29.23	101.44	29.32	1.25
5	16.11	13.96	12.56	11.76	0.60
4	23.78	9.18	27.89	9.33	-0.97
3	18.56	7.20	25.00	9.76	-1.66
2	17.44	9.13	20.78	8.47	-0.83
1	19.67	9.85	14.11	10.97	1.17
Defensive Positive	59.67	15.80	56.00	10.63	0.59
General Malad.	98.89	7.01	94.44	10.15	1.13
Psychosis	47.56	4.90	49.67	6.63	-0.80
Pers. Disorder	75.00	9.63	71.11	10.49	0.85
Neurosis	88.78	13.03	85.89	7.70	0.58
Pers. Integration	9.56	4.36	10.44	4.39	-0.45

Appendix E-7

TENNESSEE SELF CONCEPT SCALE - FEMALE

AIDES AND HANDICAPPED

Score	Aides (N=64) Mean	S.D.	Handicapped (N=40) Mean	S.D.	t
Self Criticism	36.88	6.03	36.98	6.17	0.08
T/F	1.09	0.21	1.14	0.81	0.52
Net Conflict	0.55	9.42	-4.30	11.73	-2.33*
Total Conflict	28.19	8.06	31.80	7.05	2.34*
Total Positive	350.80	31.68	340.15	30.03	-1.71
1-Identity	128.38	10.75	123.53	12.45	-2.12*
2-Self Satis.	107.05	15.76	104.75	12.43	-0.79
3-Behavior	115.53	10.20	111.55	9.57	-1.99*
A-Physical Self	70.64	7.91	64.28	5.34	-4.52*
B-Moral-Ethical	70.67	7.58	70.33	7.07	-0.23
C-Personal Self	66.09	8.60	64.75	7.12	-0.83
D-Family Self	71.92	8.17	71.25	10.54	-0.37
E-Social Self	71.55	7.53	69.53	8.10	-1.30
Total Variability	46.89	14.76	46.53	10.05	-0.14
Col. Total V.	28.22	11.05	27.20	7.83	-0.51
Row Total V.	18.41	5.58	19.35	5.39	0.85
Distribution	118.17	23.34	111.60	25.88	-1.35
5	17.03	9.18	14.88	9.08	-1.18
4	26.66	8.36	23.58	5.58	-2.07*
3	16.42	8.20	22.43	10.66	3.24*
2	19.28	7.36	18.18	7.27	-0.75
1	17.84	9.16	18.00	8.17	0.09
Defensive Positive	55.78	11.93	50.33	8.80	-2.51*
General Malad.	98.06	9.37	95.95	9.54	-1.12
Psychosis	46.84	5.84	47.28	6.70	0.35
Pers. Disorder	75.56	10.68	73.13	11.42	-1.11
Neurosis	83.11	11.39	80.23	9.90	-1.33
Pers. Integration	10.61	3.80	9.63	2.55	-1.45

*Significant at or beyond .05 level

Appendix E-8

TENNESSEE SELF CONCEPT SCALE - FEMALE

AIDES AND GENERAL COLLEGE

Score	Aides (N=62) Mean	S.D.	General College (N=42) Mean	S.D.	t
Self Criticism	36.84	6.12	36.45	5.47	-0.33
T/F	1.09	0.21	1.06	0.27	-0.72
Net Conflict	0.58	9.52	-2.00	11.91	-1.23
Total Conflict	28.21	8.08	28.67	8.19	0.28
Total Positive	350.87	32.12	339.71	38.34	-1.61
1-Identity	128.39	10.87	125.07	11.68	-1.49
2-Self Satis.	107.13	16.00	103.00	16.52	-1.28
3-Behavior	115.52	10.36	111.38	12.61	-1.84
A-Physical Self	70.74	7.99	68.52	7.96	-1.40
B-Moral-Ethical	70.77	7.69	68.86	8.73	-1.19
C-Personal Self	66.16	8.70	62.36	10.85	-1.99*
D-Family Self	71.87	8.27	72.71	9.35	0.49
E-Social Self	71.40	7.61	67.90	10.58	-1.97*
Total Variability	47.11	14.92	49.36	12.74	0.80
Col. Total V.	28.34	11.18	28.86	8.24	0.26
Row Total V.	18.50	5.65	20.50	7.33	1.58
Distribution	118.42	23.66	113.02	21.98	-1.18
5	17.19	9.28	16.79	8.20	-0.23
4	26.58	8.48	24.95	6.24	-1.07
3	16.48	8.31	21.21	8.97	2.77*
2	18.97	7.24	19.60	6.73	0.45
1	18.08	9.21	17.45	8.21	-0.36
Defensive Positive	55.90	12.07	51.26	13.06	-1.87
General Malad.	97.85	9.43	94.95	11.04	-1.44
Psychosis	46.97	5.89	45.83	5.29	-1.01
Pers. Disorder	75.61	10.82	75.40	12.77	-0.09
Neurosis	83.21	11.45	80.64	12.63	-1.08
Pers. Integration	10.50	3.80	10.14	3.59	-0.48

*Significant at or beyond .05 level

Appendix E-9

TENNESSEE SELF CONCEPT SCALE - FEMALE

HANDICAPPED AND GENERAL COLLEGE

Score	Handicapped (N=36) Mean	S.D.	General College (N=42) Mean	S.D.	t
Self Criticism	36.83	6.09	36.45	5.47	-0.29
T/F	1.02	0.27	1.06	0.27	0.60
Net Conflict	-3.17	11.82	-2.00	11.91	0.44
Total Conflict	31.56	7.52	28.67	8.19	-1.62
Total Positive	339.89	29.37	339.71	38.34	-0.02
1-Identity	123.72	11.88	125.07	11.68	0.51
2-Self Satis.	104.44	12.03	103.00	16.52	-0.44
3-Behavior	111.39	9.80	111.38	12.61	-0.00
A-Physical Self	64.22	5.47	68.52	7.96	2.75*
B-Moral-Ethical	70.33	7.41	68.86	8.73	-0.80
C-Personal Self	64.72	6.98	62.36	10.85	-1.13
D-Family Self	71.25	10.58	72.71	9.35	0.65
E-Social Self	69.36	7.52	67.90	10.58	-0.69
Total Variability	46.00	9.76	49.36	12.74	1.30
Col. Total V.	26.75	7.48	28.86	8.24	1.18
Row Total V.	19.28	5.60	20.50	7.33	0.82
Distribution	110.28	25.38	113.02	21.98	0.52
5	14.33	9.24	16.79	8.20	1.25
4	23.94	5.86	24.95	6.24	0.74
3	22.75	10.43	21.21	8.97	-0.70
2	18.28	6.62	19.60	6.73	0.87
1	17.64	7.83	17.45	8.21	-0.10
Defensive Positive	50.47	8.52	51.26	13.06	0.31
General Malad.	95.67	9.27	94.95	11.04	-0.31
Psychosis	47.61	6.52	45.83	5.29	-1.34
Pers. Disorder	72.92	11.89	75.40	12.77	0.89
Neurosis	80.28	9.89	80.64	12.63	0.14
Pers. Integration	9.81	2.53	10.14	3.59	0.47

*Significant at or beyond .05 level

Appendix E-10

TENNESSEE SELF CONCEPT SCALE - FEMALE

ALL PROJECT AND GENERAL COLLEGE

Score	Project (N=105) Mean	S.D.	General College (N=126) Mean	S.D.	t
Self Criticism	36.97	6.05	36.47	5.53	-0.66
T/F	1.11	0.52	1.08	0.30	-0.49
Net Conflict	-1.29	10.53	-1.98	13.01	-0.44
Total Conflict	29.52	7.84	31.83	10.00	1.92
Total Positive	346.47	31.29	327.73	31.67	-4.51*
1-Identity	126.44	11.58	122.22	10.51	-2.91*
2-Self Satis.	106.10	14.49	99.69	15.10	-3.28*
3-Behavior	113.90	10.12	105.82	10.80	-5.84*
A-Physical Self	68.14	7.64	65.99	8.54	-2.00*
B-Moral-Ethical	70.47	7.36	67.28	6.87	-3.41*
C-Personal Self	65.55	8.02	60.92	8.35	-4.28*
D-Family Self	71.65	9.07	67.06	8.71	-3.92*
E-Social Self	70.70	7.78	66.48	8.50	-3.91*
Total Variability	46.65	13.07	50.78	14.60	2.25*
Col. Total V.	27.78	9.87	30.37	10.34	1.94
Row Total V.	18.71	5.50	20.40	6.42	2.13*
Distribution	115.28	24.61	109.06	21.83	-2.04*
5	16.10	9.17	15.49	9.04	-0.51
4	25.55	7.54	25.75	7.97	0.19
3	18.87	9.68	23.03	8.91	3.41*
2	18.90	7.29	19.21	7.30	0.33
1	17.77	8.82	16.52	8.20	-1.12
Defensive Positive	53.61	11.08	49.44	11.35	-2.81*
General Malad.	97.18	9.43	91.92	8.57	-4.45*
Psychosis	47.04	6.13	48.58	6.23	1.89
Pers. Disorder	74.54	10.96	70.25	9.76	-3.15*
Neurosis	81.95	10.85	78.25	10.95	-2.58*
Pers. Integration	10.23	3.38	9.44	3.55	-1.71

*Significant at or beyond .05 level

Appendix E-11

TENNESSEE SELF CONCEPT SCALE - FEMALE

AIDES, PRE AND POST

Score	Pre (N=27) Mean	S.D.	Post (N=27) Mean	S.D.	t
Self Criticism	36.52	6.26	37.33	7.44	-0.44
T/F	1.09	0.22	1.10	0.20	-0.14
Net Conflict	0.63	8.31	-0.41	11.79	0.38
Total Conflict	28.81	7.80	26.85	10.35	0.80
Total Positive	345.15	26.90	350.07	27.12	-0.68
1-Identity	128.07	9.98	128.37	7.79	-0.12
2-Self Satis.	102.56	15.74	107.74	13.65	-1.30
3-Behavior	114.74	8.04	113.96	11.60	0.29
A-Physical Self	69.85	7.27	70.67	6.10	-0.45
B-Moral-Ethical	68.33	7.39	69.04	8.67	-0.32
C-Personal Self	65.00	7.89	66.37	7.87	-0.64
D-Family Self	71.63	7.30	73.04	6.63	-0.75
E-Social Self	70.70	8.03	71.04	6.79	-0.17
Total Variability	51.04	14.65	45.96	15.23	1.26
Col. Total V.	31.33	12.44	27.96	10.66	1.08
Row Total V.	19.26	4.73	18.00	5.91	0.87
Distribution	115.19	21.47	114.15	24.65	0.17
5	15.85	8.45	15.19	10.54	0.26
4	25.74	7.70	27.19	9.18	-0.63
3	17.04	7.61	18.15	8.93	-0.50
2	19.70	6.59	19.78	6.68	-0.04
1	17.74	7.19	16.67	8.51	0.51
Defensive Positive	54.15	12.34	55.33	11.25	-0.37
General Malad.	97.19	9.37	99.70	10.17	-0.96
Psychosis	47.48	7.28	44.93	5.42	1.47
Pers. Disorder	73.04	10.58	73.85	11.26	-0.28
Neurosis	82.41	8.82	85.11	9.02	-1.13
Pers. Integration	10.30	3.84	10.00	4.62	0.26

Appendix E-12

TENNESSEE SELF CONCEPT SCALE - FEMALE

HANDICAPPED, PRE AND POST

Score	Pre (N=20) Mean	S.D.	Post (N=20) Mean	S.D.	t
Self Criticism	37.90	6.71	39.05	5.24	-0.61
T/F	1.04	0.27	1.00	0.18	0.52
Net Conflict	-2.35	9.94	-3.80	8.67	0.50
Total Conflict	29.85	5.95	31.00	6.21	-0.61
Total Positive	348.65	27.72	342.15	34.03	0.67
1-Identity	125.80	11.09	125.50	12.26	0.08
2-Self Satis.	108.80	12.61	105.75	13.98	0.74
3-Behavior	113.35	9.85	110.90	12.26	0.71
A-Physical Self	65.65	5.30	66.00	7.38	-0.18
B-Moral-Ethical	72.05	7.89	72.10	8.49	-0.02
C-Personal Self	66.35	6.75	64.10	7.80	0.99
D-Family Self	74.05	9.97	70.95	10.28	0.98
E-Social Self	70.65	7.71	69.00	8.35	0.66
Total Variability	45.80	9.61	49.45	9.83	-1.20
Col. Total V.	25.90	6.96	29.05	6.89	-1.46
Row Total V.	19.95	6.04	20.40	5.99	-0.24
Distribution	115.15	27.53	115.60	30.01	-0.05
5	16.05	9.28	16.95	9.78	-0.30
4	22.70	6.08	23.10	7.17	-0.19
3	21.30	10.43	21.40	12.41	-0.03
2	17.00	7.80	17.90	8.64	-0.35
1	18.95	9.27	18.65	9.99	0.10
Defensive Positive	52.35	7.92	48.70	8.30	1.44
General Malad.	96.80	8.73	94.85	9.75	0.68
Psychosis	45.45	6.28	45.90	8.36	-0.20
Pers. Disorder	73.70	13.77	75.60	9.91	-0.51
Neurosis	82.80	9.00	80.00	10.88	0.90
Pers. Integration	10.10	2.47	9.70	4.43	0.36

Appendix F-1

MINNESOTA MULTIPHASIC PERSONALITY INVENTORY - MALE

AIDES AND HANDICAPPED

Score	Aides (N=30) Mean	S.D.	Handicapped (N=19) Mean	S.D.	t
L	3.40	1.79	3.84	2.46	-0.74
F	5.00	3.66	4.05	2.04	1.03
K	14.70	4.84	16.21	4.95	-1.07
Hypochondriasis	5.10	3.96	6.95	3.47	-1.68
Depression	19.10	5.96	18.58	4.41	0.33
Hysteria	22.53	4.38	23.32	4.90	-0.59
Psychopathic	17.27	4.96	17.16	3.63	0.08
Interest	30.03	5.42	26.58	5.36	2.21*
Paranoia	11.03	2.59	8.84	2.52	2.94*
Psychasthenia	13.93	8.16	11.37	4.39	1.26
Schizophrenia	14.63	10.00	12.95	4.77	0.69
Hypomania	19.17	3.74	18.63	4.54	0.46
Social I. E.	21.93	11.23	23.16	6.11	-0.44
Dependency	20.67	9.61	15.68	5.13	2.08*

*Significant at or beyond .05 level

Appendix F-2

MINNESOTA MULTIPHASIC PERSONALITY INVENTORY - MALE

AIDES, PRE AND POST

Score	Pre (N=10) Mean	S.D.	Post (N=10) Mean	S.D.	t
L	3.60	1.17	3.40	1.35	0.37
F	3.60	3.13	2.60	1.17	0.95
K	17.10	4.84	17.80	4.34	-0.35
Hypochondriasis	4.40	2.72	5.90	8.05	-0.59
Depression	16.80	3.01	15.20	1.99	1.43
Hysteria	23.60	2.72	17.50	9.31	2.10*
Psychopathic	16.00	3.59	13.50	3.10	1.71
Interest	30.50	5.93	29.30	5.98	0.46
Paranoia	10.20	2.39	8.90	1.97	1.36
Psychasthenia	10.20	3.94	5.70	4.99	2.32*
Schizophrenia	9.60	6.38	5.10	3.57	1.97*
Hypomania	17.20	4.13	16.50	3.87	0.40
Social I. E.	16.50	4.50	13.50	3.66	1.67
Dependency	18.10	4.43	13.80	5.35	2.02*

*Significant at or beyond .05 level

Appendix F-3

MINNESOTA MULTIPHASIC PERSONALITY INVENTORY - MALE

HANDICAPPED, PRE AND POST

Score	Pre (N=4) Mean	S.D.	Post (N=4) Mean	S.D.	t
L	4.75	4.03	4.25	4.03	0.19
F	3.75	2.99	3.75	1.89	0.00
K	18.50	7.94	19.75	6.40	-0.26
Hypochondriasis	6.75	1.71	9.50	7.33	-0.88
Depression	19.75	6.29	20.50	5.00	-0.20
Hysteria	23.75	4.57	14.00	13.14	1.67
Psychopathic	18.75	1.89	17.75	3.20	0.62
Interest	25.75	4.79	24.25	4.11	0.51
Paranoia	9.50	1.00	11.00	4.24	-0.83
Psychasthenia	12.00	5.83	13.00	10.61	-0.19
Schizophrenia	13.75	6.13	8.75	4.57	1.39
Hypomania	19.00	3.56	13.50	4.65	2.11*
Social I. E.	23.00	8.04	21.75	6.40	0.26
Dependency	16.75	4.99	16.75	4.50	0.00

*Significant at or beyond .05 level

Appendix F-4

MINNESOTA MULTIPHASIC PERSONALITY INVENTORY - FEMALE

AIDES AND HANDICAPPED

Score	Aides (N=64) Mean	S.D.	Handicapped (N=34) Mean	S.D.	t
L	3.48	2.12	3.85	1.86	-0.86
F	4.34	3.54	4.44	3.02	-0.14
K	15.50	3.81	15.91	3.77	-0.51
Hypochondriasis	5.63	3.90	5.71	3.98	-0.10
Depression	19.44	4.69	19.62	4.72	-0.18
Hysteria	22.86	4.48	22.21	4.55	0.69
Psychopathic	14.95	4.38	16.35	3.53	-1.61
Interest	38.08	5.09	38.32	5.22	-0.23
Paranoia	10.08	2.98	10.74	3.18	-1.02
Psychasthenia	13.20	6.78	13.21	6.86	-0.00
Schizophrenia	12.05	6.73	13.76	6.72	-1.21
Hypomania	18.80	3.41	18.44	5.32	0.41
Social I. E.	22.42	8.39	23.68	8.52	-0.70
Dependency	22.13	8.71	21.53	8.64	0.32

Appendix F-5

MINNESOTA MULTIPHASIC PERSONALITY INVENTORY - FEMALE

AIDES, PRE AND POST

Score	Pre (N=16) Mean	S.D.	Post (N=16) Mean	S.D.	t
L	3.38	2.13	2.44	1.21	1.55
F	4.06	2.54	3.44	2.61	0.70
K	14.63	4.43	15.50	3.56	-0.62
Hypochondriasis	5.00	3.22	7.38	8.37	-1.09
Depression	19.25	4.68	17.56	5.67	0.94
Hysteria	21.31	4.53	18.06	7.55	1.51
Psychopathic	14.63	3.84	14.63	3.32	0.00
Interest	38.31	5.72	39.38	5.16	-0.56
Paranoia	9.63	1.67	9.81	2.40	-0.26
Psychasthenia	14.19	7.38	12.25	4.64	0.90
Schizophrenia	13.63	6.87	10.56	5.09	1.45
Hypomania	18.94	3.09	18.06	4.09	0.70
Social I. E.	23.56	8.25	23.38	8.24	0.07
Dependency	23.50	9.41	20.06	7.77	1.14

Appendix F-6

MINNESOTA MULTIPHASIC PERSONALITY INVENTORY - FEMALE

HANDICAPPED, PRE AND POST

Score	Pre (N=8) Mean	S.D.	Post (N=8) Mean	S.D.	t
L	4.75	1.98	4.13	1.13	0.79
F	4.50	3.30	3.75	2.82	0.50
K	19.25	2.55	17.63	2.67	1.29
Hypochondriasis	4.63	2.50	8.63	10.34	-1.14
Depression	21.25	5.15	19.38	5.21	0.75
Hysteria	23.25	3.58	16.88	8.17	2.16*
Psychopathic	15.63	2.07	13.50	2.83	1.80
Interest	39.50	4.57	42.75	4.40	-1.50
Paranoia	9.50	2.67	9.75	3.54	-0.17
Psychasthenia	9.88	4.52	10.00	4.17	-0.06
Schizophrenia	10.63	5.34	10.25	5.04	0.15
Hypomania	17.13	6.58	15.63	4.27	0.55
Social I. E.	23.75	10.73	26.63	7.73	-0.63
Dependency	15.63	6.21	22.50	6.41	-2.26*

*Significant at or beyond .05 level

Appendix G-1

STRONG VOCATIONAL INTEREST BLANK - MEN
1938, Form M

AIDES AND HANDICAPPED

Occupation	Aides (N=12) Mean	S.D.	Handicapped (N=9) Mean	S.D.	t
Artist	3.25	2.14	4.00	2.55	-0.76
Psychologist	3.25	2.09	3.89	2.47	-0.66
Architect	2.67	2.02	3.89	2.67	-1.24
Physician	4.25	2.63	4.22	2.99	0.02
Psychiatrist	4.25	2.05	4.56	2.51	-0.32
Dentist	3.17	1.85	3.22	2.39	-0.06
Osteopath	4.67	2.06	4.00	2.12	0.75
Veterinarian	3.33	2.02	2.44	1.94	1.04
Mathematician	2.17	1.75	3.11	2.57	-1.04
Engineer	3.00	1.91	2.78	2.82	0.22
Physicist	1.92	2.02	2.44	3.00	-0.50
Chemist	3.33	2.35	3.00	3.08	0.29
Production Manager	4.08	1.93	3.00	0.71	1.61
Farmer	4.25	1.76	4.11	1.90	0.18
Carpenter	2.33	1.78	1.89	1.17	0.66
Aviator	3.75	2.09	4.00	2.40	-0.26
Army Officer	3.00	1.65	3.00	2.06	0.00
Printer	4.25	1.66	4.78	1.72	-0.73
Math-Science Teacher	4.25	1.86	4.22	1.92	0.03
Voc. Agric. Teacher	2.75	1.36	2.33	1.00	0.79
Policeman	4.25	1.66	3.22	1.39	1.53
Forest Service Man	3.17	1.70	2.33	1.80	1.12
YMCA Physical Director	4.67	2.06	3.22	1.92	1.68
Personnel Manager	3.50	1.62	3.11	2.09	0.50
Vocational Counselor	4.75	1.71	4.67	2.24	0.10
Public Administrator	5.00	1.54	4.56	2.01	0.60
YMCA Secretary	3.33	2.19	3.11	2.15	0.24
Social Science Teacher	4.83	2.04	4.44	2.30	0.42
Social Worker	4.33	1.83	4.44	2.13	-0.13
Physical Therapist	5.00	2.13	4.56	2.01	0.50
City School Supt.	2.67	1.92	2.89	2.15	-0.26
Minister	2.92	1.78	3.22	2.49	-0.34

(Continued)

Appendix G-1 (Continued)

STRONG VOCATIONAL INTEREST BLANK - MEN
1938, Form M

AIDES AND HANDICAPPED

Occupation	Aides (N=12) Mean	S.D.	Handicapped (N=9) Mean	S.D.	t
Music Performer	4.33	2.27	5.56	2.01	-1.31
Music Teacher	3.50	2.11	4.22	2.17	-0.79
C.P.A. Partner	2.75	1.36	3.22	1.48	-0.78
Senior C.P.A.	4.17	1.95	4.22	1.79	-0.07
Junior Accountant	3.33	2.27	3.00	1.94	0.36
Office Worker	4.33	2.23	4.33	2.60	0.00
Purchasing Agent	3.33	1.78	3.00	2.24	0.39
Banker	3.67	1.67	3.56	2.07	0.14
Credit Manager	4.67	2.02	4.44	2.35	0.24
Business Educ. Teacher	4.58	2.11	4.44	2.07	0.15
Pharmacist	5.08	1.83	4.22	1.30	1.22
Mortician	4.42	1.93	4.00	2.45	0.45
Sales Manager	4.17	1.95	4.00	2.24	0.19
Real Estate Slsmn.	5.17	1.47	5.11	2.15	0.07
Life Insurance Slsmn.	4.75	1.82	4.22	2.33	0.61
Advertising Man	4.33	1.78	5.33	1.32	-1.44
Lawyer	4.00	1.81	4.44	1.67	-0.59
Author-Journalist	4.17	1.99	5.00	1.73	-1.02
President-Mfg. Concern	3.67	1.37	3.33	1.41	0.56

Appendix G-2

STRONG VOCATIONAL INTEREST BLANK - MEN
1938, Form M

AIDES AND GENERAL COLLEGE

Occupation	Aides (N=12) Mean	S.D.	General College (N=154) Mean	S.D.	t
Artist	3.25	2.14	3.01	1.76	-0.44
Psychologist	3.25	2.09	2.71	1.49	-1.19
Architect	2.67	2.02	2.73	1.74	0.12
Physician	4.25	2.63	3.43	2.07	-1.30
Psychiatrist	4.25	2.05	2.95	1.62	-2.63*
Dentist	3.17	1.85	2.92	1.82	-0.46
Osteopath	4.67	2.06	3.55	1.84	-2.02*
Veterinarian	3.33	2.02	2.65	1.64	-1.38
Mathematician	2.17	1.75	2.09	1.39	-0.18
Engineer	3.00	1.91	2.99	1.90	-0.01
Physicist	1.92	2.02	1.56	1.58	-0.74
Chemist	3.33	2.35	2.85	2.02	-0.79
Production Manager	4.08	1.93	3.73	1.50	-0.77
Farmer	4.25	1.76	4.36	1.73	0.21
Carpenter	2.33	1.78	2.26	1.58	-0.16
Aviator	3.75	2.09	4.15	1.97	0.67
Army Officer	3.00	1.65	2.67	1.75	-0.63
Printer	4.25	1.66	4.32	1.48	0.15
Math-Science Teacher	4.25	1.86	3.54	1.71	-1.38
Voc. Agric. Teacher	2.75	1.36	2.45	1.60	-0.64
Policeman	4.25	1.66	3.71	1.52	-1.18
Forest Service Man	3.17	1.70	2.48	1.73	-1.33
YMCA Physical Director	4.67	2.06	3.22	1.89	-2.54*
Personnel Manager	3.50	1.62	3.13	1.80	-0.69
Vocational Counselor	4.75	1.71	3.85	1.83	-1.65
Public Administrator	5.00	1.54	4.00	1.65	-2.04*
YMCA Secretary	3.33	2.19	2.58	1.75	-1.41
Social Science Teacher	4.83	2.04	3.94	2.02	-1.48
Social Worker	4.33	1.83	3.38	1.86	-1.71
Physical Therapist	5.00	2.13	3.81	1.86	-2.13*
City School Supt.	2.67	1.92	2.32	1.56	-0.72
Minister	2.92	1.78	2.00	1.71	-1.79

(Continued)

Appendix G-2 (Continued)

STRONG VOCATIONAL INTEREST BLANK - MEN
1938, Form M

AIDES AND GENERAL COLLEGE

Occupation	Aides (N=12) Mean	S.D.	General College (N=154) Mean	S.D.	t
Music Performer	4.33	2.27	4.05	1.91	-0.50
Music Teacher	3.50	2.11	2.99	1.94	-0.87
C.P.A. Partner	2.75	1.36	3.08	1.49	0.76
Senior C.P.A.	4.17	1.95	4.24	1.63	0.15
Junior Accountant	3.33	2.27	3.17	1.60	-0.33
Office Worker	4.33	2.23	4.30	1.75	-0.07
Purchasing Agent	3.33	1.78	3.99	1.75	1.26
Banker	3.67	1.67	3.97	1.64	0.62
Credit Manager	4.67	2.02	4.40	1.80	-0.50
Business Educ. Teacher	4.58	2.11	3.74	1.96	-1.43
Pharmacist	5.08	1.83	4.29	1.68	-1.58
Mortician	4.42	1.93	4.21	1.67	-0.42
Sales Manager	4.17	1.95	4.44	1.72	0.53
Real Estate Slsmn.	5.17	1.47	5.90	1.34	1.81
Life Insurance Slsmn.	4.75	1.82	4.69	1.75	-0.11
Advertising Man	4.33	1.78	4.63	1.65	0.60
Lawyer	4.00	1.81	4.60	1.67	1.19
Author-Journalist	4.17	1.99	4.30	1.61	0.27
President-Mfg. Concern	3.67	1.37	4.02	1.59	0.75

*Significant at or beyond .05 level

Appendix G-3

STRONG VOCATIONAL INTEREST BLANK - MEN
1938, Form M

HANDICAPPED AND GENERAL COLLEGE

Occupation	Handicapped (N=9) Mean	S.D.	General College (N=154) Mean	S.D.	t
Artist	4.00	2.55	3.01	1.76	-1.60
Psychologist	3.89	2.47	2.71	1.49	-2.24*
Architect	3.89	2.67	2.73	1.74	-1.90
Physician	4.22	2.99	3.43	2.07	-1.10
Psychiatrist	4.56	2.51	2.95	1.62	-2.81*
Dentist	3.22	2.39	2.92	1.82	-0.48
Osteopath	4.00	2.12	3.55	1.84	-0.72
Veterinarian	2.44	1.94	2.65	1.64	0.36
Mathematician	3.11	2.57	2.09	1.39	-2.04*
Engineer	2.78	2.82	2.99	1.90	0.32
Physicist	2.44	3.00	1.56	1.58	-1.55
Chemist	3.00	3.08	2.85	2.02	-0.21
Production Manager	3.00	0.71	3.73	1.50	1.46
Farmer	4.11	1.90	4.36	1.73	0.41
Carpenter	1.89	1.17	2.26	1.58	0.70
Aviator	4.00	2.40	4.15	1.97	0.22
Army Officer	3.00	2.06	2.67	1.75	-0.55
Printer	4.78	1.72	4.32	1.48	-0.90
Math-Science Teacher	4.22	1.92	3.54	1.71	-1.16
Voc. Agric. Teacher	2.33	1.00	2.45	1.60	0.21
Policeman	3.22	1.39	3.71	1.52	0.95
Forest Service Man	2.33	1.80	2.48	1.73	0.25
YMCA Physical Director	3.22	1.92	3.22	1.89	-0.00
Personnel Manager	3.11	2.09	3.13	1.80	0.03
Vocational Counselor	4.67	2.24	3.85	1.83	-1.29
Public Administrator	4.56	2.01	4.00	1.65	-0.98
YMCA Secretary	3.11	2.15	2.58	1.75	-0.87
Social Science Teacher	4.44	2.30	3.94	2.02	-0.72
Social Worker	4.44	2.13	3.38	1.86	-1.66
Physical Therapist	4.56	2.01	3.81	1.86	-1.18
City School Supt.	2.89	2.15	2.32	1.56	-1.04
Minister	3.22	2.49	2.00	1.71	-2.04*

(Continued)

Appendix G-3 (Continued)

STRONG VOCATIONAL INTEREST BLANK - MEN
1938, Form M

HANDICAPPED AND GENERAL COLLEGE

Occupation	Handicapped (N=9)		General College (N=154)		t
	Mean	S.D.	Mean	S.D.	
Music Performer	5.56	2.01	4.05	1.91	-2.31*
Music Teacher	4.22	2.17	2.99	1.94	-1.84
C.P.A. Partner	3.22	1.48	3.08	1.49	-0.27
Senior C.P.A.	4.22	1.79	4.24	1.63	0.03
Junior Accountant	3.00	1.94	3.17	1.60	0.30
Office Worker	4.33	2.60	4.30	1.75	-0.06
Purchasing Agent	3.00	2.24	3.99	1.75	1.63
Banker	3.56	2.07	3.97	1.64	0.73
Credit Manager	4.44	2.35	4.40	1.80	-0.08
Business Educ. Teacher	4.44	2.07	3.74	1.96	-1.05
Pharmacist	4.22	1.30	4.29	1.68	0.11
Mortician	4.00	2.45	4.21	1.67	0.36
Sales Manager	4.00	2.24	4.44	1.72	0.74
Real Estate Slsmn.	5.11	2.15	5.90	1.34	1.66
Life Insurance Slsmn.	4.22	2.33	4.69	1.75	0.78
Advertising Man	5.33	1.32	4.63	1.65	-1.26
Lawyer	4.44	1.67	4.60	1.67	0.27
Author-Journalist	5.00	1.73	4.30	1.61	-1.27
President-Mfg. Concern	3.33	1.41	4.02	1.59	1.27

*Significant at or beyond .05 level

Appendix G-4

STRONG VOCATIONAL INTEREST BLANK - MEN
1938, Form M

ALL PROJECT AND GENERAL COLLEGE

Occupation	Project (N=21)		General College (N=154)		t
	Mean	S.D.	Mean	S.D.	
Artist	3.57	2.29	3.01	1.76	-1.32
Psychologist	3.52	2.23	2.71	1.49	-2.22*
Architect	3.19	2.34	2.73	1.74	-1.10
Physician	4.24	2.72	3.43	2.07	-1.62
Psychiatrist	4.38	2.20	2.95	1.62	-3.63*
Dentist	3.19	2.04	2.92	1.82	-0.64
Osteopath	4.38	2.06	3.55	1.84	-1.93
Veterinarian	2.95	1.99	2.65	1.64	-0.78
Mathematician	2.57	2.13	2.09	1.39	-1.39
Engineer	2.90	2.28	2.99	1.90	0.20
Physicist	2.14	2.43	1.56	1.58	-1.49
Chemist	3.19	2.62	2.85	2.02	-0.70
Production Manager	3.62	1.60	3.73	1.50	0.33
Farmer	4.19	1.78	4.36	1.73	0.41
Carpenter	2.14	1.53	2.26	1.58	0.32
Aviator	3.86	2.17	4.15	1.97	0.63
Army Officer	3.00	1.79	2.67	1.75	-0.81
Printer	4.48	1.66	4.32	1.48	-0.45
Math-Science Teacher	4.24	1.84	3.54	1.71	-1.75
Voc. Agric. Teacher	2.57	1.21	2.45	1.60	-0.34
Policeman	3.81	1.60	3.71	1.52	-0.27
Forest Service Man	2.81	1.75	2.48	1.73	-0.82
YMCA Physical Director	4.05	2.09	3.22	1.89	-1.86
Personnel Manager	3.33	1.80	3.13	1.80	-0.49
Vocational Counselor	4.71	1.90	3.85	1.83	-2.02*
Public Administrator	4.81	1.72	4.00	1.65	-2.11*
YMCA Secretary	3.24	2.12	2.58	1.75	-1.57
Social Science Teacher	4.67	2.11	3.94	2.02	-1.54
Social Worker	4.38	1.91	3.38	1.86	-2.30*
Physical Therapist	4.81	2.04	3.81	1.86	-2.30*
City School Supt.	2.76	1.97	2.32	1.56	-1.17
Minister	3.05	2.06	2.00	1.71	-2.58*

(Continued)

Appendix G-4 (Continued)

STRONG VOCATIONAL INTEREST BLANK - MEN
1938, Form M

ALL PROJECT AND GENERAL COLLEGE

Occupation	Project (N=21) Mean	S.D.	General College (N=154) Mean	S.D.	t
Music Performer	4.86	2.20	4.05	1.91	-1.80
Music Teacher	3.81	2.11	2.99	1.94	-1.79
C.P.A. Partner	2.95	1.40	3.08	1.49	0.39
Senior C.P.A.	4.19	1.83	4.24	1.63	0.13
Junior Accountant	3.19	2.09	3.17	1.60	-0.06
Office Worker	4.33	2.33	4.30	1.75	-0.08
Purchasing Agent	3.19	1.94	3.99	1.75	1.95
Banker	3.62	1.80	3.97	1.64	0.92
Credit Manager	4.57	2.11	4.40	1.80	-0.41
Business Educ. Teacher	4.52	2.04	3.74	1.96	-1.72
Pharmacist	4.71	1.65	4.29	1.68	-1.10
Mortician	4.24	2.12	4.21	1.67	-0.08
Sales Manager	4.10	2.02	4.44	1.72	0.85
Real Estate Slsmn.	5.14	1.74	5.90	1.34	2.34*
Life Insurance Slsmn.	4.52	2.02	4.69	1.75	0.41
Advertising Man	4.76	1.64	4.63	1.65	-0.35
Lawyer	4.19	1.72	4.60	1.67	1.05
Author-Journalist	4.52	1.89	4.30	1.61	-0.59
President-Mfg. Concern	3.52	1.36	4.02	1.59	1.36

*Significant at or beyond .05 level

Appendix G-5

STRONG VOCATIONAL INTEREST BLANK - MEN
1966, Form T399

AIDES AND HANDICAPPED

Occupation	Aides (N=28) Mean	S.D.	Handicapped (N=16) Mean	S.D.	t
Dentist	3.29	1.56	2.69	1.89	1.15
Osteopath	4.32	1.72	2.56	1.86	3.21*
Veterinarian	3.46	1.77	3.25	1.84	0.38
Physician	4.75	1.86	2.56	2.10	3.64*
Psychiatrist	4.29	2.02	2.50	2.25	2.75*
Psychologist	4.11	2.10	2.75	1.98	2.13*
Biologist	3.86	2.10	1.88	2.13	3.03*
Architect	3.54	2.15	2.44	1.71	1.76
Mathematician	2.64	1.81	2.00	1.90	1.13
Physicist	2.39	1.97	1.56	1.82	1.40
Chemist	2.96	2.28	1.69	1.58	1.99*
Engineer	2.46	1.99	1.56	1.21	1.65
Production Manager	3.32	2.04	3.00	0.97	0.59
Army Officer	2.79	2.13	1.88	1.54	1.51
Air Force Officer	3.57	2.15	3.00	1.51	0.94
Carpenter	2.11	1.77	1.94	1.39	0.33
Forest Service Man	2.11	1.91	2.25	1.84	-0.24
Farmer	3.79	1.77	3.44	1.90	0.62
Math-Science Teacher	3.18	1.94	2.38	0.96	1.55
Printer	3.07	1.46	4.75	1.73	-3.47*
Policeman	2.29	1.41	2.56	1.32	-0.65
Personnel Director	2.93	1.76	3.44	1.86	-0.91
Public Administrator	4.29	1.72	4.63	1.96	-0.61
Rehabilitation Counselor	4.57	1.77	4.63	2.13	-0.09
YMCA Secretary	4.21	2.35	4.88	2.00	-0.96
Social Worker	5.00	2.24	4.69	2.15	0.46
Social Science Teacher	4.18	2.00	5.56	1.86	-2.29*
School Superintendent	3.04	1.79	3.25	1.91	-0.38
Minister	3.79	2.04	2.81	2.17	1.51
Librarian	4.89	2.08	4.31	1.89	0.93
Artist	4.11	1.89	3.69	1.54	0.76
Musician Performer	6.07	1.94	5.19	1.52	1.58
Music Teacher	5.25	2.37	4.50	1.79	1.11

(Continued)

Appendix G-5 (Continued)

STRONG VOCATIONAL INTEREST BLANK - MEN
1966, Form T399

AIDES AND HANDICAPPED

Occupation	Aides (N=28)		Handicapped (N=16)		t
	Mean	S.D.	Mean	S.D.	
C.P.A. Owner	2.18	1.28	2.75	1.29	-1.44
Senior C.P.A.	1.71	1.51	2.44	2.22	-1.31
Accountant	2.04	1.95	3.00	2.16	-1.54
Office Worker	2.64	1.91	4.19	2.01	-2.57*
Purchasing Agent	2.82	1.87	4.19	2.14	-2.25*
Banker	2.25	1.58	4.13	2.06	-3.44*
Pharmacist	3.18	1.83	3.69	1.82	-0.90
Mortician	3.71	2.09	4.94	1.84	-1.97*
Sales Manager	2.75	1.86	4.88	2.09	-3.53*
Real Estate Slsmn.	4.32	2.04	5.88	1.45	-2.70*
Life Insurance Slsmn.	3.82	2.33	5.38	1.82	-2.32*
Advertising Man	4.00	2.00	5.38	1.54	-2.39*
Lawyer	4.25	2.07	5.13	1.59	-1.48
Author-Journalist	4.68	1.79	5.00	1.46	-0.62
President-Mfg. Concern	2.18	1.42	3.06	1.61	-1.92
Credit Manager	3.25	2.22	4.31	2.02	-1.59
Cham. of Com. Exec.	4.68	1.66	5.56	1.67	-1.72
Physical Therapist	5.25	2.34	3.63	1.67	2.46*
Computer Programmer	3.93	2.37	3.00	1.86	1.36
Business Educ. Teacher	3.29	2.05	4.31	2.06	-1.61
Com. Rec. Admins.	4.32	2.14	4.38	2.06	-0.08

*Significant at or beyond .05 level

Appendix G-6

STRONG VOCATIONAL INTEREST BLANK - MEN
1966, Form T399

AIDES AND GENERAL COLLEGE

Occupation	Aides (N=28) Mean	S.D.	General College (N=509) Mean	S.D.	t
Dentist	3.29	1.56	3.51	1.80	-0.66
Osteopath	4.32	1.72	3.30	1.71	3.08*
Veterinarian	3.46	1.77	3.32	1.52	0.50
Physician	4.75	1.86	3.87	2.09	2.18*
Psychiatrist	4.29	2.02	2.86	1.76	4.16*
Psychologist	4.11	2.10	3.06	1.65	3.25*
Biologist	3.86	2.10	2.84	1.92	2.73*
Architect	3.54	2.15	3.40	1.91	0.35
Mathematician	2.64	1.81	2.36	1.66	0.86
Physicist	2.39	1.97	2.08	1.69	0.94
Chemist	2.96	2.28	2.64	1.94	0.86
Engineer	2.46	1.99	2.59	1.77	-0.36
Production Manager	3.32	2.04	3.07	1.57	0.80
Army Officer	2.79	2.13	2.38	1.73	1.19
Air Force Officer	3.57	2.15	3.33	1.82	0.69
Carpenter	2.11	1.77	2.33	1.69	-0.67
Forest Service Man	2.11	1.91	1.92	1.47	0.64
Farmer	3.79	1.77	3.98	1.70	-0.58
Math-Science Teacher	3.18	1.94	2.97	1.63	0.64
Printer	3.07	1.46	4.11	1.73	-3.13*
Policeman	2.29	1.41	2.11	1.29	0.70
Personnel Director	2.93	1.76	2.70	1.73	0.69
Public Administrator	4.29	1.72	3.43	1.89	2.36*
Rehabilitation Counselor	4.57	1.77	3.72	1.86	2.37*
YMCA Secretary	4.21	2.35	4.20	2.11	0.02
Social Worker	5.00	2.24	3.85	2.17	2.74*
Social Science Teacher	4.18	2.00	4.21	1.93	-0.09
School Superintendent	3.04	1.79	2.24	1.58	2.59*
Minister	3.79	2.04	2.39	1.97	3.65*
Librarian	4.89	2.08	4.10	1.91	2.14*
Artist	4.11	1.89	4.01	1.83	0.27
Musician Performer	6.07	1.94	5.29	1.81	2.22*
Music Teacher	5.25	2.37	4.03	2.00	3.12*

(Continued)

Appendix G-6 (Continued)

STRONG VOCATIONAL INTEREST BLANK - MEN
1966, Form T399

AIDES AND GENERAL COLLEGE

Occupation	Aides (N=28) Mean	S.D.	General College (N=509) Mean	S.D.	t
C.P.A. Owner	2.18	1.28	2.87	1.41	-2.55*
Senior C.P.A.	1.71	1.51	2.61	1.85	-2.52*
Accountant	2.04	1.95	2.51	1.75	-1.39
Office Worker	2.64	1.91	3.45	1.89	-2.21*
Purchasing Agent	2.82	1.87	3.61	1.88	-2.17*
Banker	2.25	1.58	3.17	1.67	-2.84*
Pharmacist	3.18	1.83	3.48	1.63	-0.95
Mortician	3.71	2.09	4.24	1.58	-1.68
Sales Manager	2.75	1.86	3.80	1.85	-2.94*
Real Estate Slsmn.	4.32	2.04	5.38	1.55	-3.47*
Life Insurance Slsmn.	3.82	2.33	4.52	1.75	-2.02*
Advertising Man	4.00	2.00	4.85	1.78	-2.47*
Lawyer	4.25	2.07	4.77	1.71	-1.55
Author-Journalist	4.68	1.79	4.83	1.74	-0.45
President-Mfg. Concern	2.18	1.42	2.83	1.54	-2.20*
Credit Manager	3.25	2.22	3.79	2.12	-1.32
Cham. of Com. Exec.	4.68	1.66	4.69	1.85	-0.03
Physical Therapist	5.25	2.34	4.06	1.96	3.09*
Computer Programmer	3.93	2.37	3.59	1.94	0.89
Business Educ. Teacher	3.29	2.05	3.67	2.00	-0.98
Com. Rec. Admins.	4.32	2.14	3.71	2.08	1.52

*Significant at or beyond .05 level

Appendix G-7

STRONG VOCATIONAL INTEREST BLANK - MEN
1966, Form T399

HANDICAPPED AND GENERAL COLLEGE

Occupation	Handicapped (N=16) Mean	S.D.	General College (N=509) Mean	S.D.	t
Dentist	2.69	1.89	3.51	1.80	-1.81
Osteopath	2.56	1.86	3.30	1.71	-1.70
Veterinarian	3.25	1.84	3.32	1.52	-0.17
Physician	2.56	2.10	3.87	2.09	-2.47*
Psychiatrist	2.50	2.25	2.86	1.76	-0.79
Psychologist	2.75	1.98	3.06	1.65	-0.73
Biologist	1.88	2.13	2.84	1.92	-1.96*
Architect	2.44	1.71	3.40	1.91	-2.00*
Mathematician	2.00	1.90	2.36	1.66	-0.86
Physicist	1.56	1.82	2.08	1.69	-1.21
Chemist	1.69	1.58	2.64	1.94	-1.94
Engineer	1.56	1.21	2.59	1.77	-2.30*
Production Manager	3.00	0.97	3.07	1.57	-0.18
Army Officer	1.88	1.54	2.38	1.73	-1.16
Air Force Officer	3.00	1.51	3.33	1.82	-0.71
Carpenter	1.94	1.39	2.33	1.69	-0.91
Forest Service Man	2.25	1.84	1.92	1.47	0.88
Farmer	3.44	1.90	3.98	1.70	-1.25
Math-Science Teacher	2.38	0.96	2.97	1.63	-1.47
Printer	4.75	1.73	4.11	1.73	1.45
Policeman	2.56	1.32	2.11	1.29	1.38
Personnel Director	3.44	1.86	2.70	1.73	1.68
Public Administrator	4.63	1.96	3.43	1.89	2.50*
Rehabilitation Counselor	4.63	2.13	3.72	1.86	1.91
YMCA Secretary	4.88	2.00	4.20	2.11	1.25
Social Worker	4.69	2.15	3.85	2.17	1.53
Social Science Teacher	5.56	1.86	4.21	1.93	2.76*
School Superintendent	3.25	1.91	2.24	1.58	2.51*
Minister	2.81	2.17	2.39	1.97	0.85
Librarian	4.31	1.89	4.10	1.91	0.45
Artist	3.69	1.54	4.01	1.83	-0.70
Musician Performer	5.19	1.52	5.29	1.81	-0.22
Music Teacher	4.50	1.79	4.03	2.00	0.93

(Continued)

Appendix G-7 (Continued)

STRONG VOCATIONAL INTEREST BLANK - MEN
1966, Form T399

HANDICAPPED AND GENERAL COLLEGE

Occupation	Handicapped (N=16) Mean	S.D.	General College (N=509) Mean	S.D.	t
C.P.A. Owner	2.75	1.29	2.87	1.41	-0.34
Senior C.P.A.	2.44	2.22	2.61	1.85	-0.36
Accountant	3.00	2.16	2.51	1.75	1.10
Office Worker	4.19	2.01	3.45	1.89	1.53
Purchasing Agent	4.19	2.14	3.61	1.88	1.20
Banker	4.13	2.06	3.17	1.67	2.25*
Pharmacist	3.69	1.82	3.48	1.63	0.50
Mortician	4.94	1.84	4.24	1.58	1.73
Sales Manager	4.88	2.09	3.80	1.85	2.28*
Real Estate Slsmn.	5.88	1.45	5.38	1.55	1.26
Life Insurance Slsmn.	5.38	1.82	4.52	1.75	1.91
Advertising Man	5.38	1.54	4.85	1.78	1.16
Lawyer	5.13	1.59	4.77	1.71	0.82
Author-Journalist	5.00	1.46	4.83	1.74	0.38
President-Mfg. Concern	3.06	1.61	2.83	1.54	0.59
Credit Manager	4.31	2.02	3.79	2.12	0.97
Cham. of Com. Exec.	5.56	1.67	4.69	1.85	1.86
Physical Therapist	3.63	1.67	4.06	1.96	-0.89
Computer Programmer	3.00	1.86	3.59	1.94	-1.20
Business Educ. Teacher	4.31	2.06	3.67	2.00	1.28
Com. Rec. Admins.	4.38	2.06	3.71	2.08	1.27

*Significant at or beyond .05 level

Appendix G-8

STRONG VOCATIONAL INTEREST BLANK - MEN
1966, Form T399

ALL PROJECT AND GENERAL COLLEGE

Occupation	Project (N=441)		General College (N=509)		t
	Mean	S.D.	Mean	S.D.	
Dentist	3.07	1.69	3.51	1.80	-1.58
Osteopath	3.68	1.95	3.30	1.71	1.41
Veterinarian	3.39	1.78	3.32	1.52	0.29
Physician	3.95	2.20	3.87	2.09	0.25
Psychiatrist	3.64	2.25	2.86	1.76	2.76*
Psychologist	3.61	2.14	3.06	1.65	2.11*
Biologist	3.14	2.30	2.84	1.92	0.98
Architect	3.14	2.05	3.40	1.91	-0.89
Mathematician	2.41	1.85	2.36	1.66	0.17
Physicist	2.09	1.94	2.08	1.69	0.04
Chemist	2.50	2.13	2.64	1.94	-0.45
Engineer	2.14	1.79	2.59	1.77	-1.63
Production Manager	3.20	1.72	3.07	1.57	0.53
Army Officer	2.45	1.97	2.38	1.73	0.26
Air Force Officer	3.36	1.94	3.33	1.82	0.13
Carpenter	2.05	1.63	2.33	1.69	-1.07
Forest Service Man	2.16	1.87	1.92	1.47	1.01
Farmer	3.66	1.80	3.98	1.70	-1.19
Math-Science Teacher	2.89	1.69	2.97	1.63	-0.34
Printer	3.68	1.75	4.11	1.73	-1.59
Policeman	2.39	1.37	2.11	1.29	1.36
Personnel Director	3.11	1.79	2.70	1.73	1.53
Public Administrator	4.41	1.80	3.43	1.89	3.33*
Rehabilitation Counselor	4.59	1.88	3.72	1.86	2.98*
YMCA Secretary	4.45	2.23	4.20	2.11	0.75
Social Worker	4.89	2.19	3.85	2.17	3.05*
Social Science Teacher	4.68	2.04	4.21	1.93	1.54
School Superintendent	3.11	1.82	2.24	1.58	3.49*
Minister	3.43	2.12	2.39	1.97	3.36*
Librarian	4.68	2.01	4.10	1.91	1.94
Artist	3.95	1.76	4.01	1.83	-0.20
Musician Performer	5.75	1.83	5.29	1.81	1.63
Music Teacher	4.98	2.18	4.03	2.00	3.00*

(Continued)

Appendix G-8 (Continued)

STRONG VOCATIONAL INTEREST BLANK - MEN
1966, Form T399

ALL PROJECT AND GENERAL COLLEGE

Occupation	Project (N=44) Mean	S.D.	General College (N=509) Mean	S.D.	t
C.P.A. Owner	2.39	1.30	2.87	1.41	-2.21*
Senior C.P.A.	1.98	1.81	2.61	1.85	-2.18*
Accountant	2.39	2.06	2.51	1.75	-0.45
Office Worker	3.20	2.06	3.45	1.89	-0.83
Purchasing Agent	3.32	2.05	3.61	1.88	-0.99
Banker	2.93	1.97	3.17	1.67	-0.88
Pharmacist	3.36	1.82	3.48	1.63	-0.45
Mortician	4.16	2.07	4.24	1.58	-0.32
Sales Manager	3.52	2.18	3.80	1.85	-0.95
Real Estate Slsmn.	4.89	1.98	5.38	1.55	-1.99*
Life Insurance Slsmn.	4.39	2.26	4.52	1.75	-0.48
Advertising Man	4.50	1.95	4.85	1.78	-1.26
Lawyer	4.57	1.93	4.77	1.71	-0.74
Author-Journalist	4.80	1.66	4.83	1.74	-0.13
President-Mfg. Concern	2.50	1.53	2.83	1.54	-1.37
Credit Manager	3.64	2.19	3.79	2.12	-0.47
Cham. of Com. Exec.	5.00	1.70	4.69	1.85	1.07
Physical Therapist	4.66	2.24	4.06	1.96	1.91
Computer Programmer	3.59	2.22	3.59	1.94	-0.00
Business Educ. Teacher	3.66	2.09	3.67	2.00	-0.02
Com. Rec. Admins.	4.34	2.09	3.71	2.08	1.94

*Significant at or beyond .05 level

Appendix G-9

STRONG VOCATIONAL INTEREST BLANK - WOMEN
1946, Form W

AIDES AND HANDICAPPED

Occupation	Aides (N=72)		Handicapped (N=49)		t
	Mean	S.D.	Mean	S.D.	
Artist	4.21	1.96	4.14	1.91	0.18
Author	3.94	1.93	4.33	1.97	-1.06
Librarian	3.03	1.85	3.06	1.25	-0.11
English Teacher	2.57	1.84	3.14	1.90	-1.67
Social Worker	4.53	1.62	4.55	2.03	-0.07
Psychologist	2.88	1.65	2.67	1.59	0.67
Social Science Teacher	2.33	1.74	2.35	1.80	-0.04
YWCA Secretary	2.00	1.31	1.55	1.19	1.93
Lawyer	2.65	1.73	2.71	1.63	-0.20
Life Ins. Saleswoman	1.81	1.17	2.24	1.30	-1.95
Buyer	1.96	1.26	2.45	1.21	-2.15*
Business Educ. Teacher	2.57	1.66	2.92	1.78	-1.11
Office Worker	3.50	1.70	3.90	1.86	-1.22
Stenographer Secretary	3.79	1.82	4.73	1.55	-2.97*
Housewife	4.58	1.55	4.76	1.53	-0.60
Elementary Teacher	4.24	1.73	4.33	1.95	-0.27
Home Economics Teacher	3.04	2.02	2.31	1.58	2.15*
Dietitian	3.03	1.62	2.76	1.61	0.91
Phys. Educ. Tchr.-H. S.	3.58	1.63	2.57	1.04	3.86*
Phys. Educ. Tchr.-College	2.64	1.61	1.41	1.00	4.77*
Occupational Therapist	4.47	2.20	3.20	1.50	3.52*
Physical Therapist	5.21	1.80	3.73	1.66	4.58*
Nurse	3.57	1.63	2.63	1.54	3.19*
Math-Science Teacher	2.71	1.37	2.29	1.50	1.61
Dentist	2.58	1.34	2.18	1.38	1.60
Laboratory Technician	3.06	1.69	2.71	1.95	1.03
Physician	3.46	1.93	2.61	1.41	2.64*
Music Performer	5.01	1.95	5.14	1.96	-0.36
Music Teacher	3.88	2.03	3.51	2.00	0.98
Engineer	2.40	1.70	1.76	1.49	2.17*

*Significant at or beyond .05 level

Appendix G-10

STRONG VOCATIONAL INTEREST BLANK - WOMEN
1946, Form W

AIDES AND GENERAL COLLEGE

Occupation	Aides (N=72) Mean	S.D.	General College (N=602) Mean	S.D.	t
Artist	4.21	1.96	4.01	1.72	-0.90
Author	3.94	1.93	3.92	1.72	-0.11
Librarian	3.03	1.85	2.85	1.40	-0.98
English Teacher	2.57	1.84	2.37	1.60	-0.96
Social Worker	4.53	1.62	4.03	1.84	-2.18*
Psychologist	2.88	1.65	2.08	1.41	-4.45*
Social Science Teacher	2.33	1.74	2.06	1.62	-1.33
YWCA Secretary	2.00	1.31	1.47	1.27	-3.33*
Lawyer	2.65	1.73	2.70	1.69	0.23
Life Ins. Saleswoman	1.81	1.17	2.27	1.30	2.92*
Buyer	1.96	1.26	2.76	1.53	4.29*
Business Educ. Teacher	2.57	1.66	2.95	1.69	1.81
Office Worker	3.50	1.70	4.15	1.76	2.95*
Stenographer Secretary	3.79	1.82	4.85	1.69	4.97*
Housewife	4.58	1.55	4.79	1.57	1.08
Elementary Teacher	4.24	1.73	4.28	1.82	0.18
Home Economics Teacher	3.04	2.02	2.47	1.62	-2.77*
Dietitian	3.03	1.62	2.60	1.41	-2.36*
Phys. Educ. Tchr.-H. S.	3.58	1.63	3.19	1.45	-2.16*
Phys. Educ. Tchr.-College	2.64	1.61	1.73	1.44	-4.96*
Occupational Therapist	4.47	2.20	3.17	1.76	-5.75*
Physical Therapist	5.21	1.80	3.86	1.80	-6.00*
Nurse	3.57	1.63	2.74	1.57	-4.20*
Math-Science Teacher	2.71	1.37	2.35	1.47	-1.96
Dentist	2.58	1.34	2.28	1.41	-1.75
Laboratory Technician	3.06	1.69	2.70	1.69	-1.71
Physician	3.46	1.93	2.65	1.55	-4.09*
Music Performer	5.01	1.95	4.68	1.77	-1.48
Music Teacher	3.88	2.03	3.48	2.01	-1.58
Engineer	2.40	1.70	1.87	1.48	-2.85*

*Significant at or beyond .05 level

Appendix G-11

STRONG VOCATIONAL INTEREST BLANK - WOMEN
1946, Form W

HANDICAPPED AND GENERAL COLLEGE

Occupation	Handicapped (N=49)		General College (N=602)		t
	Mean	S.D.	Mean	S.D.	
Artist	4.14	1.91	4.01	1.72	-0.50
Author	4.33	1.97	3.92	1.72	-1.57
Librarian	3.06	1.25	2.85	1.40	-1.02
English Teacher	3.14	1.90	2.37	1.60	-3.18*
Social Worker	4.55	2.03	4.03	1.84	-1.88
Psychologist	2.67	1.59	2.08	1.41	-2.82*
Social Science Teacher	2.35	1.80	2.06	1.62	-1.17
YWCA Secretary	1.55	1.19	1.47	1.27	-0.43
Lawyer	2.71	1.63	2.70	1.69	-0.05
Life Ins. Saleswoman	2.24	1.30	2.27	1.30	0.15
Buyer	2.45	1.21	2.76	1.53	1.40
Business Educ. Teacher	2.92	1.78	2.95	1.69	0.13
Office Worker	3.90	1.86	4.15	1.76	0.95
Stenographer Secretary	4.73	1.55	4.85	1.69	0.46
Housewife	4.76	1.53	4.79	1.57	0.17
Elementary Teacher	4.33	1.95	4.28	1.82	-0.18
Home Economics Teacher	2.31	1.58	2.47	1.62	0.67
Dietitian	2.76	1.61	2.60	1.41	-0.71
Phys. Educ. Tchr.-H. S.	2.57	1.04	3.19	1.45	2.93*
Phys. Educ. Tchr.-College	1.41	1.00	1.73	1.44	1.55
Occupational Therapist	3.20	1.50	3.17	1.76	-0.12
Physical Therapist	3.73	1.66	3.86	1.80	0.47
Nurse	2.63	1.54	2.74	1.57	0.48
Math-Science Teacher	2.29	1.50	2.35	1.47	0.30
Dentist	2.18	1.38	2.28	1.41	0.46
Laboratory Technician	2.71	1.95	2.70	1.69	-0.07
Physician	2.61	1.41	2.65	1.55	0.16
Music Performer	5.14	1.96	4.68	1.77	-1.73
Music Teacher	3.51	2.00	3.48	2.01	-0.11
Engineer	1.76	1.49	1.87	1.48	0.52

*Significant at or beyond .05 level

Appendix G-12

STRONG VOCATIONAL INTEREST BLANK - WOMEN
1946, Form W

ALL PROJECT AND GENERAL COLLEGE

Occupation	Project (N=121) Mean	S.D.	General College (N=602) Mean	S.D.	t
Artist	4.18	1.94	4.01	1.72	0.96
Author	4.10	1.95	3.92	1.72	1.02
Librarian	3.04	1.62	2.85	1.40	1.33
English Teacher	2.80	1.88	2.37	1.60	2.60*
Social Worker	4.54	1.79	4.03	1.84	2.76*
Psychologist	2.79	1.62	2.08	1.41	4.96*
Social Science Teacher	2.34	1.76	2.06	1.62	1.69
YWCA Secretary	1.82	1.28	1.47	1.27	2.74*
Lawyer	2.68	1.68	2.70	1.69	-0.14
Life Ins. Saleswoman	1.98	1.24	2.27	1.30	-2.26*
Buyer	2.16	1.26	2.76	1.53	-4.08*
Business Educ. Teacher	2.71	1.71	2.95	1.69	-1.42
Office Worker	3.66	1.77	4.15	1.76	-2.76*
Stenographer Secretary	4.17	1.77	4.85	1.69	-3.98*
Housewife	4.65	1.54	4.79	1.57	-0.91
Elementary Teacher	4.27	1.82	4.28	1.82	-0.03
Home Economics Teacher	2.74	1.88	2.47	1.62	1.67
Dietitian	2.92	1.62	2.60	1.41	2.17*
Phys. Educ. Tchr.-H. S.	3.17	1.50	3.19	1.45	-0.11
Phys. Educ. Tchr.-College	2.14	1.52	1.73	1.44	2.80*
Occupational Therapist	3.96	2.04	3.17	1.76	4.36*
Physical Therapist	4.61	1.88	3.86	1.80	4.15*
Nurse	3.19	1.65	2.74	1.57	2.82*
Math-Science Teacher	2.54	1.43	2.35	1.47	1.27
Dentist	2.42	1.36	2.28	1.41	1.02
Laboratory Technician	2.92	1.80	2.70	1.69	1.30
Physician	3.12	1.78	2.65	1.55	2.96*
Music Performer	5.07	1.95	4.68	1.77	2.13*
Music Teacher	3.73	2.02	3.48	2.01	1.24
Engineer	2.14	1.64	1.87	1.48	1.81

*Significant at or beyond .05 level

Appendix H

THE EFFECTS OF PEER CONTACT ON ATTITUDES TOWARD DISABLED COLLEGE STUDENTS

Robert M. Urie
Alvin H. Smith
St. Andrews Presbyterian College

Two factors contribute to the increasing number of disabled students now applying for admission to colleges and universities. First, the improved medical and transportation techniques which have established a higher survival rate for battle casualties than in previous wars. Second, the steadily rising toll of automobile accidents has added significant numbers of individuals to the disabled student category. A North Carolina Vocational Rehabilitation Report (1968)* provides estimates for the prevalence of disability in 1970 and 1975. Using two categories of disability, "Orthopedic deformity or impairment" and "Absence or amputation of limbs," the combined estimated prevalence of these conditions in North Carolina is 484,793 in 1970 and 511,632 in 1975. Of these numbers approximately twenty-five thousand are in the 18-34 age group. After making adjustments for a normal distribution of intelligence, these figures would still indicate the presence of a large number of handicapped individuals who may profit from higher education.

This relatively new minority group brings to the college campus some new problems for administrators, faculty, and student-peers. Among these problems is that of providing acceptance for the handicapped as individuals instead of treating them on the basis of disability stereotypes. Before college personnel can deal effectively with this type of student, there must be a heightened awareness of existing attitudes. Still further, personnel and students alike need to know more about the effects of prolonged exposure to disabled students. It is assumed that objective information in these areas will contribute to more frequent and more realistic opportunities for disabled students in higher education.

The basic underlying rationale for this study is stated in the hypothesis of Homans (1950) as follows: "If the frequency of interaction between two or more persons increases, the degree of their liking for one another will increase and vice versa." Each study reported below owes in some measure to this original principle and the current investigation is a refinement of the various applications which have been made by others. Specific attention is directed toward extent and type of interactions which are experienced by the able-bodied population under study.

*This item and all other references cited in this article are included in the list on pages 55-57.

PURPOSE:

The primary purpose of this study was to determine how the attitudes of able-bodied students toward disabled peers are affected by contact with them in a residential college setting. The secondary purpose of this study was to answer the following questions: (1) Does extent of contact with disabled students have a functional relationship to the amount of attitude change as measured by selected instruments? (2) Will freshmen attitudes toward disabled students show greater positive changes over time on a campus which does not have disabled students?

A summer camp study by Anthony (1969) examined the effects of contact with the disabled on attitudes of professional camp personnel. He found that staff members with previous experience among the disabled had more positive attitudes than new staff both before and after the experimental period. He also reported more positive changes among new staff members than previous staff as hypothesized and attributed the observed changes to effects of contact with disabled persons. The present study was concerned with such changes among peers instead of counselor-child relationships, and in an educational setting as opposed to a summer camp.

An international study among eleven nations by Jordan (1968) examined attitudes toward education and physically disabled persons. Among several hypotheses tested on an international basis was one relating contact to attitudes. Jordan concluded that (1) Amount of contact per se is more clearly predictive of attitude intensity when the attitude object is a personal rather than a conceptual one. (2) In general, amount of contact per se is not predictive of favorable attitudes. (3) Perceived enjoyment and voluntariness of the contact are predictive of attitude favorableness. The hypothesis for favorableness of attitudes and contact with the disabled was supported at the .05 level, but enjoyment of the contact seemed to be the more crucial factor. Subjects in Jordan's study do not represent the college age group.

What appears to be the more extensively researched instrument measuring attitudes toward disabled persons is found in a monograph by Yuker, Block, and Younng (1966). Their scale was used in the international study described above. These authors present reliability data and evidence for construct validity of the scale but also indicate that attitude studies have tended to yield contradictory results. It appears that most studies have failed to control the extent and type of contact which is under investigation. Other studies reported by the same authors deal with the attitude of disabled persons toward their own group rather than attitudes of the able-bodied as in the current study.

Schuman and Harding (1963) have developed a questionnaire, "Sympathetic Identification with the Underdog," consisting of simple stories involving several ethnic groups. Evidence is given for existence of a dimension of sympathetic identification but with a low relationship to other standard measures of prejudice. Although the study deals with

ethnic minorities, the authors suggest that their instrument measures a factor which is related to many types of social "underdog." The current study investigated the relationship between attitudes as measured by this technique with those measured by scales specifically oriented toward the disabled minority group.

A scale for measuring attitudes toward disabled college students was developed by Auvenshine (1962) as a doctoral dissertation. He reported that college students used in his study did not express extremely positive or negative attitudes toward disabled students. Only a small number of subjects reported extreme likes or dislikes. Females expressed more favorable attitudes than males and increased age was a factor among males tending toward more favorable attitudes. Inconclusive findings were reported in respect to the differences in scores between various divisions of the institution such as education versus business due to the small number of respondents in some divisions. As undertaken in this study, there is also need for investigation of relationships between contact and attitude as well as between expressed attitudes and overt behavior.

1. Subjects: The subjects for this study consisted of 96 male and 117 female freshmen at St. Andrews College (the total 1969 entering class except for disabled students and their roommates). A random sample of 43 freshmen, 20 male and 23 female from Catawba College constituted the control group. The latter institution was selected on the basis of its similarity to St. Andrews as reported in the 10th edition of American Universities and Colleges, American Council on Education. Primary criteria included college size, size of freshman class in 1969, average S.A.T. scores, percentage of freshmen from upper half of graduating class, and denominational control. The absence of disabled students was the final criterion for the selection of Catawba as the control institution. A major uncontrolled variable was total expense for each institution, with St. Andrews being approximately one thousand dollars per year higher than Catawba.

2. Research Design:

(1) The design of this study was a pretest-treatment, post-test model.

(2) The intervening treatment variable was contact with disabled students for eleven weeks beginning with the opening of Fall Term, 1969 at St. Andrews.

(3) The control group was randomly selected from the freshman class at Catawba College.

(4) A self-report measure of previous contact with disabled students was used as a means of determining previous contact with such students.

Hypotheses To Be Tested:

1. There will be no statistically significant difference between pre-test scores for the three scales.

2. There will be a statistically significant difference between pre-test and post-test scores on the three scales for St. Andrews males and females.

3. There will be a statistically significant difference for the three scales on post-test scores for Catawba Males and Females and St. Andrews Presbyterian College Males and Females.

TABLE I

Comparison Of Groups In The Two Colleges For The "Attitude Toward Disabled Persons Scale"

GROUP	N	MEANS	STANDARD DEVIATIONS	RANK ORDER OF MEANS
Catawba Males Pre-Test - Previous Contact	5	74.000	17.4499	4
Catawba Males Pre-Test - No Previous Contact	15	72.867	13.1576	3
Catawba Males Post-Test - Previous Contact	4	70.000	15.0776	1
Catawba Males Post-Test - No Previous Contact	15	75.933	15.5032	6
Catawba Females Pre-Test - Previous Contact	8	76.125	11.6673	7
Catawba Females Pre-Test - No Previous Contact	15	78.933	13.5090	11
Catawba Females Post-Test - Previous Contact	7	74.429	21.2983	5
Catawba Females Post-Test - No Previous Contact	15	82.267	14.8394	13
St. Andrews Pres. Coll. Males - Pre-Test Previous Contact	30	76.500	18.8602	8
St. Andrews Pres. Coll. Males - Pre-Test No Previous Contact	66	72.530	18.0965	2
St. Andrews Pres. Coll. Males Post Test Previous Contact	30	79.700	16.2759	12
St. Andrews Pres. Coll. Males Post-Test No Previous Contact	66	76.818	17.3527	9
St. Andrews Pres. Coll. Females Pre-Test Previous Contact	30	83.633	13.0093	15
St. Andrews Pres. Coll. Females Pre-Test No Previous Contact	87	78.621	16.5079	10
St. Andrews Pres. Coll. Females Post-Test Previous Contact	30	87.200	13.0092	16
St. Andrews Pres. Coll. Females Post-Test No Previous Contact	87	83.241	14.4485	14

Summary of Duncan Range Test for .05 Level of Significance

70.00 72.54 72.87 74.00 74.43 75.93 76.13 76.50 76.82 78.62 78.93 79.70 82.27 83.24 83.63 87.20

TABLE II

Comparison Of Groups In The Two Colleges For The "Underdog" Scale

GROUP	N	MEANS	STANDARD DEVIATIONS	RANK ORDER OF MEANS
Catawba Males Pre-Test - Previous Contact	5	27.200	7.1554	12
Catawba Males Pre-Test - No Previous Contact	15	25.133	6.0812	5
Catawba Males Post-Test - Previous Contact	4	25.000	10.1325	4
Catawba Males Post-Test - No Previous Contact	15	23.267	5.9578	1
Catawba Females Pre-Test - Previous Contact	8	29.000	4.8990	16
Catawba Females Pre-Test - No Previous Contact	15	27.867	6.3004	15
Catawba Females Post-Test - Previous Contact	7	26.286	8.2808	10
Catawba Females Post-Test - No Previous Contact	15	26.400	5.4090	11
St. Andrews Pres. Coll. Males - Pre-Test Previous Contact	30	23.900	5.1752	2
St. Andrews Pres. Coll. Males - Pre-Test No Previous Contact	66	25.712	5.4171	8
St. Andrews Pres. Coll. Males - Post-Test Previous Contact	30	24.367	5.9796	3
St. Andrews Pres. Coll. Males Post-Test No Previous Contact	66	25.515	6.3638	6
St. Andrews Pres. Coll. Females Pre-Test Previous Contact	30	26.067	6.0452	9
St. Andrews Pres. Coll. Females Pre-Test No Previous Contact	87	27.345	5.9703	13
St. Andrews Pres. Coll. Females Post-Test Previous Contact	30	25.700	5.6515	7
St. Andrews Pres. Coll. Females Post-Test No Previous Contact	87	27.736	6.4074	14

Summary of Duncan Range Test for .05 Level of Significance

23.27 23.90 24.37 25.00 25.14 25.52 25.70 25.71 26.07 26.29 26.40 27.20 27.35 27.74 27.87 29.00

TABLE III

Comparison Of Groups In The Two Colleges For The Auvenshine "Attitude Toward Severely Disabled Students" Scale

GROUP	N	MEANS	STANDARD DEVIATIONS	RANK ORDER OF MEANS
Catawba Males Pre-Test - Previous Contact	5	69.800	14.3248	2
Catawba Males Pre-Test - No Previous Contact	15	73.267	14.6798	4
Catawba Males Post-Test - Previous Contact	4	63.250	12.6062	1
Catawba Males Post-Test - No Previous Contact	15	80.067	24.4203	10
Catawba Females Pre-Test - Previous Contact	8	72.250	12.2795	3
Catawba Females Pre-Test - No Previous Contact	15	83.200	28.7258	11
Catawba Females Post-Test - Previous Contact	7	85.143	29.5094	12
Catawba Females Post-Test - No Previous Contact	15	86.067	19.9909	13
St. Andrews Pres. Coll. Males - Pre-Test Previous Contact	30	79.100	20.1483	8
St. Andrews Pres. Coll. Males - Pre-Test No Previous Contact	66	74.439	21.2623	6
St. Andrews Pres. Coll. Males Post-Test Previous Contact	30	74.100	19.9531	5
St. Andrews Pres. Coll. Males Post-Test No Previous Contact	66	77.682	28.6963	7
St. Andrews Pres. Coll. Females Pre-Test Previous Contact	30	88.267	19.2505	15
St. Andrews Pres. Coll. Females Pre-Test No Previous Contact	87	79.103	18.4332	9
St. Andrews Pres. Coll. Females Post-Test Previous Contact	30	90.267	22.2470	16
St. Andrews Pres. Coll. Females Post-Test No Previous Contact	87	86.621	20.1383	14

Summary of Duncan Range Test For .05 Level of Significance

63.25 69.80 72.26 73.27 74.10 74.44 77.69 79.10 79.11 80.07 83.20 85.14 86.07 86.62 88.27 90.27

RESULTS:

As can be observed from the three tables, Hypothesis 1 is confirmed on the pre-test data with the exception that males and females do differ in their beginning attitudes toward disabled persons as measured by the Attitude Toward Disabled Persons Scale* and the Auvenshine Scale.** There are no substantial differences on the Underdog Scale. Hypothesis 2: The males do not tend to grow as much in their changing of attitudes as do the females. The major difference can be seen with females who have had no previous contact and females who have had some reported previous contact. For both scales, the Attitude Toward Disabled Persons and the ATDCS scale, females grow considerably more than males, although females are initially at a somewhat higher point on the scale than males. Hypothesis 3 indicates that post-test results do show a significant increase for the females on two scales but not a significant increase for the males on the two scales.

Apparently the ATDP scale and the ATDCS scale are both measuring about the same level in changes in attitude. The Underdog scale is not differentiating nearly as much nor does it indicate the same kind of change that the other two scales are indicating. As can be seen from the previous tables, the females who have had previous contact show a mean gain of about 5 points on the ATDP scale and a mean gain of approximately 7 points on the ATDCS scale. For females who have had previous contact the gain is roughly 4 points on the ATDP scale and roughly 2 points for the ATDCS scale. From this it is possible to conclude that the ATDP scale is a somewhat more sensitive scale to changes in attitude than is the ATDCS scale, except for students who have had no previous contact with disabled persons. As can be seen from the tables, the Catawba females even with no contact with disabled students on their campus, do show a slight gain, but it is not nearly the dramatic change that the St. Andrews females show. Therefore it is possible to conclude from this study that eleven weeks of exposure to a considerable number of handicapped students on a college campus does change the attitude of females considerably toward those students whether or not they have had previous contact with disabled students.

For a college that does not have disabled students it is entirely possible that there is some gain as a result of overall growth or changes in the attitudes as the result of time without distinct exposure to handicapped students.

The picture for males is somewhat different. Males apparently, on the two scales that show the greatest amount of differences for females did not show this same kind of difference. As a matter of fact, their attitudes generally go down or remain approximately the same over a period of eleven weeks. For those students who are in contact with handicapped students on a college campus there is a gain but it is not

*Hereafter abbreviated ATDP.

**Hereafter abbreviated ATDCS.

in the realm of significance. The two groups of males are actually very close together in respect to their attitudes toward disabled persons when they enter college, but is somewhat different after some exposure to handicapped students on campus. This of course can be due to a variety of factors. One is, that there are less handicapped students on the St. Andrews Campus who are males and as a consequence, males do not have nearly as much social contact with these handicapped students as females do. There is also the possible factor that males are apt to be more physically active while a handicapped student is not able to participate in many types of sports activity. Thus, the males will not be exposed in the same way as females are exposed to the handicapped students.

CONCLUSIONS:

It may with safety be concluded from this study that eleven weeks of contact with handicapped students will significantly change female attitudes towards those students, whether or not they have had previous contact with handicapped students. It may also be concluded for this study at least, that males do not receive the same benefit from exposure to handicapped students that females do, and that males do not tend to change in attitude as much. It may also be concluded from this study that the Attitude Toward Disabled Persons scale and the ATDCS scale are differentiating considerably better to changes in attitude toward handicapped students than is the Underdog scale. There are obviously some suggestions for further research that need to be made. What kind of contact are these students actually getting in their first eleven weeks of college? Is it indeed the social contact between the male and female differences that has been observed as a result of this study or are there possibly other contacts in which these students engage that simply are not tested by the instruments that were used as a part of this study? There is also a need for clarity of definition in regard to the attitudes which are actually being measured. Apparently the ATDP scale and the ATDCS scale are somewhat different in the type of measurement which they are doing but they also show a considerable number of similarities as a result of this study.

MANUAL

STUDENT AIDES

FOR

HANDICAPPED COLLEGE STUDENTS

St. Andrews Presbyterian College
Laurinburg, North Carolina

URIE & McKENZIE

1971

MANUAL

Student Aides to the Physically Handicapped

in

Higher Education

by

Robert M. Urie, Project Director

Alice L. McKenzie, R. N., Supervisor of Aides

St. Andrews Presbyterian College
Laurinburg, North Carolina 28352

July 1, 1971

This investigation was supported, in part, by Research and Demonstration Grant No. 12-P-55156/4/05 (RD-2424-G) from the Division of Research and Demonstration Grants, Social and Rehabilitation Service, Department of Health, Education and Welfare, Washington, D. C. 20201

PREFACE

This manual for aides is the second part of the Final Report for a project conducted under a Research and Demonstration Grant, No. 12-P-55156/4/05, from the Division of Research and Demonstration Grants, Social and Rehabilitation Service, Department of Health, Education, and Welfare, Washington, D. C. Part I may be obtained from St. Andrews Presbyterian College, Laurinburg, North Carolina. This manual, on the other hand, is being made available in separate form for those who may not have need for the full background of the project, but who are primarily interested in the aide role as such.

TABLE OF CONTENTS

page

Preface 2

Table of Contents 3

Introduction 5

Job Description 7

Checklist 10

Selection of Aides 12

Contractural Arrangements 15

Training and Supervision of Aides 21

Medically Related Concerns 25

Psychological Profiles 27

Vocational Interest Profiles 33

Conclusion 36

References 46

LIST OF TABLES

page

1. Tennessee Self Concept Scale - Male Aides 28

2. Tennessee Self Concept Scale - Female Aides 29

3. Minnesota Multiphasic Personality Inventory - Male and Female Aides 30

4. Attitudes Toward Disabled College Students 31

5. Strong Vocational Interest Blank - Male Aides and General College Males 33

6. Strong Vocational Interest Blank - Female Aides and General College Females 35

INTRODUCTION

The purpose of this manual is to provide practical information concerning the use of student aides to physically handicapped college students. As a practical document, it runs the risk of oversimplification in what has proven to be a highly sensitive and complex area of human relations. At the same time, it does seem feasible to offer an outline of what has been learned about this relationship between handicapped college students and those persons who are committed to helping them on a regular basis.

The observations which are reported in this manual were all made at one campus location, St. Andrews Presbyterian College, Laurinburg, North Carolina. During the course of a research and demonstration project, many insights were gained in regard to the feasibility of using student peers in the aide relationship. While these observations and insights did arise from this particular situation, it is our belief that a wider, general application of them is justifiable. Therefore, this document has been carefully edited so as to be useful in any higher educational setting in which handicapped college students and their aides are involved.

Again, the emphasis is simply on usefulness and feasibility, with no pretense of infallibility being made. All of the following is from the "firing line" of direct, personal observation and is in no way offered as a theoretically consistent or definitive series of statements. The suggestions which are made come from day-to-day experiences

as they happened, followed by staff and student evaluation of those events.

A successful program requires completely open communication between aides, staff, and the handicapped; therefore, this manual is addressed to that multiple audience. Certain parts may have more relevance for one group than another, but all aspects of it are of importance to the total group.

JOB DESCRIPTION

A job description for aides depends entirely upon the level of disability involved. While there are many individual exceptions or variations of disability categories, the type of aide service that is required depends on level of functioning in personal care. Thus, one type of aide is needed by the handicapped individual who cannot comb her own hair; while another type of aide is needed when the handicapped cannot perform any bathroom routines independently. It appears that college student peers should not generally be expected to assume the latter level of services on a regular basis. Adults from the college or larger community can be employed on an hourly basis for evening and morning attendant services of this nature. Hereafter, in this manual, "attendant" will have precisely that intended connotation, that is, services of an extremely personal nature, to students who require essentially total nursing care every morning and evening. Aides, on the other hand, are understood as being student peers who are companions, helpers, wheelchair pushers, readers, and providers of similar services; but who function as personal care attendants only under emergency conditions.

In essence, a student aide is expected to provide or to arrange for every handicapped need with only two exceptions: personal care as related to attendants above; and any activity that the handicapped individual is capable of performing himself. Errors of judgment are most likely to occur in the latter area during introductory periods

in which the aide and handicapped become acquainted and learn to communicate honestly with each other. Typically, a new aide will be too "zealous" and will tend to offer assistance when it is not needed. Over a period of time, the aide learns to recognize the functional capabilities of the handicapped roommate and is increasingly able to distinguish genuine needs from those requests which represent merely "convenience" as opposed to necessity for the handicapped.

A female aide said in these words:

> My role as an aide is as that of a friend. As a result, my job, if you desire to designate it as such, is not really an obligation or duty but a situation in which I do a lot of favors. Of course this varies, not only according to the sex of the roommate but also to the extent of his or her handicap. I would say that a more than satisfactory relation is one where all of the necessities are taken care of, in consideration of the idiosyncrasies and schedules of both people involved.
>
> Apart from the "duty" as such there are some definite feelings I have towards being an aide. The strongest rule I have is to more than willingly do what my roommate cannot absolutely do but not to cater to him or her as if they were a helpless puppy. College is probably their first long stay away from home and all of the comforts of life. Consequently they must learn to do as much as they are able so that they will know what they are capable of doing when they move to a less sheltered situation. As an aide one must not become the center about which the roommate revolves and vice versa.
>
> It also helps a great deal if the aide has empathy, not pity, towards situations the roommate may face. Adjusting for anyone can present problems. An open ear with a lot of understanding goes a long way.

Then a male aide wrote:

> A college education can be the most essential experience a person could have. But classroom education is not but maybe one-half of the experience; campus life and free time, if

utilized correctly, can be used as the person's laboratory of learning how to live. For a number of reasons, a college experience is going to be not only a very unique one, but a very different experience than ever before. Learning to live in a society alienated from a familiar place and friends or parents can be as trying as the school work itself. Now consider not only adjusting to new people but adjusting to a whole new environment as a handicapped student. Thoughts of "will I be accepted," etc., are sure to worry the most experienced of the handicapped. This is where the role of the aide comes in.

The aide works as a bridge to cover over the gaps, and to equalize the handicapped student; to help him fit in as normally as anyone else, but treating him as anyone else, only considering any physical impossibilities. The aide is not to treat the handicapped student as a sympathy case. If the handicapped student is to fit in, and has any particular hangups, complexes, etc., the aide should of course consider them but should not give in. I believe the role of an aide to be effective should be very cut and dried, and nothing more. A person sees himself as others see him and if a person such as the handicapped student has any particular hangups, the best thing is to ignore them, and continue treating this person as you would anyone else and watch for the change.

CHECKLIST

For the reader who is mainly interested in the immediate concerns of the aide-handicapped relationship, without working through the more detailed background reasoning which has led to particular statements, the following checklist of basic principles is offered:

1. Directed to administrators of programs, nurses, supervisors of aides:

   a. Insofar as possible, let the handicapped students themselves nominate prospective aides whom they would like to have for roommates.

   b. Be aware that some students might profess a willingness and desire to be aides but are, in fact, so involved with sports or other extracurricular activities that they have insufficient time for the needs of a handicapped student.

   c. Aides should have a general reputation among staff, faculty, and students as being basically mature and stable individuals.

   d. Aides should have high average or better academic records so as to be free from excessive study demands which would preclude adequate aide services.

   e. Aides should have an extended personal conference with the Supervisor of Aides in order to review the special situation of each handicapped before accepting the aide role.

   f. Generally, if the disability is a progressive condition, the aide should be aware of this fact and thereby be alerted to symptoms of deterioration.

2. Directed to prospective aides:

a. Learn as much as you can about the student, his condition, his needs, his "hangups" as you can before accepting an assignment as aide.

b. Try to think of your relationship with the handicapped as you would for any roommate or friend.

c. Be available to meet the needs of the handicapped as they occur, but never do anything for him that he can and should do for himself. Otherwise, you are preventing him from becoming all that he is capable of becoming.

d. Do not hesitate to ask for instructions from the handicapped himself if you are not sure of how to proceed with a move or other assistance. Remember, he knows more about his needs than anyone else.

e. Be prepared to offer more companionship and services during the first few days of orientation on campus, later reducing these as he becomes more familiar with the campus and his needs become less.

f. You may expect to receive as much benefit as you give; as one male aide frankly stated his view, "Being an aide has had a great deal of influence upon me. It has provided me with an income, confined my actions, tested my patience, and most of all it has introduced me to some of the greatest people I've ever met. Being an aide has been give and take, but I feel I've received much more than I've given."

SELECTION OF AIDES

As a general rule, it is highly desirable for prospective aides and handicapped students to mutually select each other as roommates. This procedure eliminates the majority of interpersonal conflicts which arise when assignments are made administratively. It seems only logical to assume that two students who may have shared a dormitory floor or suite in previous terms will be quite able to evaluate their feelings toward each other. On the other hand, when a staff person makes an assignment of aide to a handicapped student, it is essentially a "blind guess" as to their compatibility.

A second principle in the selection of aides is that first-year students generally should not be allowed to participate in this capacity. This is because the adjustment demands are greater during the freshman year than in later years. The overall drop-out rate from college itself is greater for freshmen than in later years and this factor would add to the risk of establishing an aide-handicapped relationship among freshmen. It is often a traumatic experience for freshmen to "break up" with their roommates over any issue or disagreement. It is even more traumatic for a handicapped student to lose his aide part way through a semester and he frequently interprets this experience as a personal rejection.

The principle of mutual self-selection between aides and the handicapped is not applicable to new handicapped students because they normally do not have any personal acquaintances in the student body.

For such new students, administrative assignment of aides is necessary. Typically, there should be a central office where such assignments are made and where interested students may come to volunteer their services. This office is variously known as a rehabilitation services office, special services, handicapped student services, disabled students office, or the like.

When it is necessary for aides to be assigned administratively rather than by the mutual self-selection process, there are a number of basic factors to consider. Among these are financial need, academic ability, interest in persons as such, general reputation among students, faculty, and staff as a person of integrity; and a sincere desire to become involved in an aide-handicapped relationship. Where a program of services to the handicapped has existed for some time, there will tend to be a certain number of students who volunteer for the aide assignments. In a large university setting, this group constitutes a labor pool from which aides can be selected as needed. In smaller schools, or in institutions where a program is just being started, it will be necessary to rely on nominations from many sources. Faculty, staff, student groups, financial aid office, and similar sources can provide names of prospective aides. This approach should probably be temporary, however, with increasing reliance upon the mutual self-selection process as the program becomes established.

A final suggestion is in reference to a summer trial session for prospective aides and handicapped alike. This will be reviewed later under the Training and Supervision section, but it also has relevance for the selection of aides. During this trial session which corresponds to the dates of the regular college summer sessions,

prospective handicapped are given the opportunity to test themselves in the actual college environment and to take courses for credit. At the conclusion of the trial session, a final decision is made as to their admission to the Fall Term. The same trial period is also a highly desirable approach to the selection and training of prospective aides who will also continue into the Fall Term if their performance is satisfactory in the judgment of staff and the handicapped roommates who receive the aide service.

CONTRACTURAL ARRANGEMENTS

A written agreement is essential so as to clearly describe the relationship between aide-handicapped, staff, parents, and all concerned. This approach tends to reduce conflicts and misunderstandings which may arise between any of the involved parties. For example, a well-meaning prospective aide might say, "I will help anyway and the money is not important at all"; but later under the pressure of academic work and the increasing demands of the handicapped roommate, the aide then says, "Well, this is not exactly what I had in mind." While it is apparent that a good aide-handicapped relationship cannot be prescribed or committed to writing, a basic written agreement on minimal expectations is essential.

A more detailed agreement may be appropriate in programs where grant funds are involved than in cases involving only the family and the institution. An illustration of this more detailed type of agreement which might be used in a state or federally funded program of services to the handicapped is shown on the next page.

Student Aide Agreement

REHABILITATION SERVICES AT COLLEGE OR UNIVERSITY X

Name of Aide:_____ Amount of Workship: $_____

Home Address:_____ Semester or Term:_____

_____ Campus Box No._____

The following statements constitute an understanding of the mutual responsibilities shared by the Rehabilitation Services staff and the students who participate as aides to the handicapped.

1. Participation in the project will not require changes in your academic program except as otherwise might be appropriate outside the scope of the Rehabilitation Project.

2. Participation in the project commits you to serve the purposes of the project as most important in your routine, second, of course, to your academic and personal health considerations. Your relations to the project, the project staff, and other participants will be in keeping with guidelines approved by the professional staff. While you are expected to assist the handicapped in a number of ways, you will not ordinarily be required to perform extremely personal, intimate, or professional-type tasks unless approved by the project staff with your consent.

3. Your specific duties are assigned by the Supervisor of Aides in conference with your handicapped partner. It is understood that your role may be subject to revision from time to time in conference with all parties concerned.

4. You will also participate in regular individual conferences with the Project Director and Supervisor of Aides when required.

5. It is understood that participation in the project involves the knowledge of confidential information on the part of each participant. Such information is released only to authorized professional personnel for purposes of the study.

6. Participation in the project will assure you of the workship shown above assuming that your performance is satisfactory in the judgment of the project staff.

7. It is further understood that you as a participant in this study are not obligated to additional fees or charges not currently understood for your attendance at College or University X. Services by the project staff are to be provided to you without charge when and as scheduled and approved by the Project Director for purposes of the study.

Signature of Student Participant	Signature of Parent or Guardian
Signature of Supervisor of Aides	Signature of Director Rehabilitation Services

Date

In those situations where all of the workship funds come directly from the handicapped student's family as opposed to a state or federal grant, a simpler agreement will be adequate. It is still important that all parties involved read and sign the agreement so as to avoid any misunderstanding. The use of an agreement also facilitates the collection and payment of workships through a central office. In the absence of such an approach, handicapped students and aides alike would be left in the awkward position of "bargaining" with each other for interpersonal services. A formalized program provides a neutral party through which negotiations can be made without direct conflict or embarrassment for the students themselves. Such a program also tends to provide a more uniform and equitable scale of compensation and expected services. A brief form of an agreement to be used in the absence of a research or other type of project is illustrated on the next page.

Student Aide Agreement

REHABILITATION SERVICES AT COLLEGE OR UNIVERSITY X

Name of Aide:_____ Amount of Workship: $_____

Home Address:_____ Semester or Term:_____

_____ Campus Box No._____

As an aide to a handicapped student, I agree to carry out my responsibilities to the best of my ability and to consult regularly with the Supervisor of Aides on all aspects of my work. I understand that specific details of this assignment cannot be provided until I have become fully acquainted with my handicapped roommate and the special circumstances involved. At the same time, I do feel that I have sufficient understanding of the aide role to enable me to make this decision to accept this responsibility. I understand that my workship will not be forfeited should my handicapped roommate have to leave school for any reason during the term. I also understand that I may forfeit part or all of my workship should my performance prove to be unsatisfactory in the combined judgment of my roommate and the Supervisor of Aides.

_____ _____

Signature of Student Participant Signature of Parent or Guardian

_____ _____

Signature of Supervisor of Aides Signature of Director Rehabilitation Services

_____

Date

The actual amount of workships to be paid will vary from one locality to another in keeping with the prevailing local economic situation. The scale of workships or wages should be adjusted to each individual institutional setting, based on the local wage scales and in proportion to local staff judgment as to the needs of each handicapped student.

For one full academic year of approximately nine months:

1. Minimum assignment — 1 hour per day
2. Average assignment — 1 1/2 hours per day
3. Maximum assignment — 2 hours per day

It is advisable to assign two aides at the average level of one and one-half hours per day to one severely handicapped student whose needs require as much as three hours per day of aide service. This division of responsibility relieves any one aide of carrying an unreasonably heavy load of physical and psychological support. It also makes it feasible for one aide to be gone from campus on a weekend without seriously jeopardizing the status of his handicapped partner. Normally, the second aide will have a room adjacent to the handicapped, while the first aide is actually his roommate.

Actual decisions as to the level of assignment required in each instance are made by the staff and are inevitably somewhat subjective in nature. Experience with the process of evaluation and assigning of aides does increase the accuracy and appropriateness of the assignments over a period of time. The assignments are also subject to review by all parties concerned, normally at the end of each semester.

TRAINING AND SUPERVISION OF AIDES

The training of an aide begins in a personal interview with the supervisor of aides, during which the prospective aide is encouraged to ask questions and to share his concerns about the role. This interview will normally have reference to a particular handicapped student and therefore it is possible to make specific statements about his needs. Following this interview, the training is largely "on-the-job" training in the dormitory, with the handicapped student functioning as the primary instructor. When this training is carried out in a summer session, it is always on a probationary basis and the aide continues his assignment into the fall term only upon satisfactory completion of the summer trial period.

The summer trial period itself is designed to evaluate both the prospective aide and handicapped prior to admission to the regular fall term. It coincides with the summer school calendar and is repeated for each session that is offered. During this trial session which is required of all new prospective handicapped students, regular college courses are taken for credit by aides and handicapped alike. It provides an opportunity for both groups of students to become oriented to each other and to the campus itself; the latter is particularly important for the handicapped. During the trial session, the supervisor of aides is in daily contact with all of the aides and their handicapped partners. Questions are handled as they arise, techniques are worked out in the rooms and baths, and all concerns are reviewed as they occur.

At the conclusion of the trial period in a summer session of five or six weeks, the prospective aide is able to make a reasonable decision concerning his future involvement in the role. In many instances, aides will find that this relatively brief period of time is all they are willing to give to the role. Among the many legitimate reasons why an aide will choose not to continue his role are: lack of time to study, to socialize; feeling uncomfortable about close personal involvement with the handicapped; normal friction and disagreements between any roommates; and simply not being previously aware of the actual requirements of the role.

It appears that during the probationary or trial period, most aides will require almost daily counseling or supervisory contacts with a knowledgeable staff person. The supervisor of aides, typically a registered nurse, will be in the best position to offer this service as needed.

Following is a series of actual statements made by experienced aides concerning their role, with direct feedback from the supervisor of aides:

A. - Aide.....Aides need to know the limitations of the handicapped, so the aide will know how much the handicapped can do for himself, his extent of motion, muscle strength, and similar reality factors.

S. - Supervisor.....I think this is true and this would vary with each individual. This information can be given in individual conferences with the aides after actual assignments have been made.

A.....An aide needs to be aware that more time is needed to do all that is required and that there will be considerably more noise in the room than normal.

S.....I think this would depend a lot upon the consideration of roommates for each other and the degree of disability involved.

A.....Being an aide is a vast responsibility.

S.....This is a tremendous responsibility for an aide if the handicapped is a quadriplegic and unable to help himself to any extent. The responsibility increases when the handicapped, by virtue of his condition, is also susceptible to infections or illness.

A.....It is extremely important to have aides and handicapped who get along well with each other.

S.....This varies with individuals as with any two roommates; some are more tolerant than others.

A.....An aide gains a great sense of achievement.

S.....I think this is very true. Individuals who receive great joy in doing for others or giving their time and effort just for self-satisfaction are usually good aides. Prospective nursing students or premedical students have made good aides in many instances; also some of the "hippie" types have been very considerate and have given their time freely.

A.....Handicapped have periods of feeling low or depressed and an aide has to learn to adjust to these times.

S.....This may be true but it would vary with the handicapped, also as to how well the handicapped has accepted his disability. This matter of feeling low at times of course applies to any roommate.

A.....Aides need to be more familiar with the problems of power chairs.

S.....Power chairs may have more problems than manual chairs but this service requires highly specialized training and skills and should not be attempted by most aides.

A.....Sometimes it is hard for an aide and his handicapped partner to get to know each other or to communicate.

S.....This might be true, especially for someone who has not had contact with the handicapped prior to serving as an aide. You should try to be honest with each other and the sooner you try to communicate the better. If this is a continuing problem for you, consult the supervisor for assistance.

A.....Let the handicapped do what they can do, then help if needed.

S.....The handicapped needs to be as independent as possible and can often learn to do more than he would have learned as a child at home.

A.....An aide should have a healthy mental outlook; don't be too protective or let it get you down.

S.....Good advice for any college student!

MEDICALLY RELATED CONCERNS

Definition of terms used related to the Handicapped:

Paraplegia	-	paralysis of lower portion of the body and of both legs
Quadriplegia	-	paralysis affecting all four limbs
Hemiplegia	-	paralysis of only one half of the body (arm and leg)
Congenital	-	occurring during fetal life
Traumatic	-	caused by or relating to an injury
Ambulatory	-	able to walk
Ileal Bladder	-	creation of a surgical passage through the abdomen for urine

Knowing some of the medical concerns can simplify living with or helping a handicapped. These are not things to confuse or frighten anyone but to help better understand conditions and day-to-day experiences.

Anyone that is paralyzed as a result of disease will have sensation, those as a result of an accident or some type of trauma will have no sensation (can feel no pain, heat or cold). It is most important in this type to be careful about burns from hot water pipes, bath water, etc. One should also be very cautious about objects that could cause bruises or cuts. A pressure area from sitting or bed rest would not be known unless careful observation is done on a regular basis. Someone with full sensation does not require this close and regular observation because pain will be the first symptom.

Loss of bowel and bladder control is another condition seen in congenital and traumatic handicapped. This can be a problem if extreme care is not taken with all appliances used. Cleanliness cannot be stressed too much. Failure to keep all items cleaned daily can result in an offensive odor.

While most handicapped are aware of their needs and try to take reasonably good care of self, some are very careless. In someone obese it is important to at least try to reduce the caloric intake. Various conditions need adequate fluids, although sometimes a handicap will limit fluids to avoid too frequent bathroom stops. Rest to some handicaps is an essential part of the day's routine. Extra time taken in routine activities along with regular college work can be too tiring for some, especially a quadriplegic. Late hours at night several times a week with no rest periods can result in physical exhaustion and illness.

It is wise that any illness in handicaps be reported to the Health Center immediately. Even though this may seem useless, a simple cold can develop into a much more serious condition if treatment is not started early. This is especially true of a quad or anyone with respiratory difficulty.

PSYCHOLOGICAL PROFILES

Many interested persons will ask about the use of psychological tests in the selection of aides. It is quite logical to assume that aides will have certain psychological characteristics which will appear on standardized test profiles. For example, one might expect that aides would be more sensitive, better adjusted, or generally in better mental health than the average college student. On the other hand, persons from the psychological disciplines might anticipate finding a different adjustment among aides.

In reality, student aides will typically appear as fully normal and average people in all respects when psychological test profiles are examined. The following tables illustrate this fact using the Tennessee Self Concept Scale by William Fitts. The standardization group shown on each table is taken from the test manual and the group is composed of people from various parts of the country and it also includes a wide age span, male and female, as well as racial and ethnic representation.

Table 1

TENNESSEE SELF CONCEPT SCALE

MALE AIDES

Score	Male Aides (N=66) Mean	S.D.	Standardization Group (N=626) Mean	S.D.
Self Criticism	38.35	4.94	35.54	6.70
T/F	1.03	.30	1.03	0.29
Net Conflict	-2.14	17.93	-4.91	13.01
Total Conflict	28.77	8.28	30.10	8.21
Total Positive	361.80	56.96	345.57	30.70
1-Identity	129.65	11.87	127.10	9.96
2-Self Satis.	110.97	16.95	103.67	13.79
3-Behavior	114.45	11.79	115.01	11.22
A-Physical Self	73.92	8.96	71.78	7.67
B-Moral-Ethical	69.03	9.15	70.33	8.70
C-Personal Self	67.47	9.47	64.55	7.41
D-Family Self	72.05	8.59	70.83	8.43
E-Social Self	71.70	11.02	68.14	7.86
Total Variability	42.71	12.44	48.53	12.42
Col. Total V.	25.53	8.32	29.03	9.12
Row Total V.	17.35	5.70	19.60	5.76
Distribution	121.21	27.80	120.44	24.19
5	17.30	12.19	18.11	9.24
4	25.86	9.15	24.36	7.55
3	15.50	9.83	18.03	8.89
2	20.39	7.86	18.85	7.99
1	18.68	9.60	20.63	9.01
Defensive Positive	57.03	11.96	54.40	12.38
General Malad.	99.88	10.12	98.80	9.15
Psychosis	43.30	6.87	46.10	6.49
Pers. Disorder	73.82	13.80	76.39	11.72
Neurosis	84.15	14.74	84.31	11.10
Pers. Integration	11.42	4.84	10.42	3.88

Table 2

TENNESSEE SELF CONCEPT SCALE

FEMALE AIDES

Score	Female Aides (N=61)		Standardization Group (N=626)	
	Mean	S.D.	Mean	S.D.
Self Criticism	36.51	6.00	35.54	6.70
T/F	1.08	0.21	1.03	0.29
Net Conflict	1.63	10.13	-4.91	13.01
Total Conflict	27.97	7.85	30.10	8.21
Total Positive	351.62	31.80	345.57	30.70
1-Identity	128.46	10.93	127.10	9.96
2-Self Satis.	107.44	15.88	103.67	13.79
3-Behavior	115.89	10.29	115.01	11.22
A-Physical Self	70.93	7.89	71.78	7.67
B-Moral-Ethical	71.13	7.36	70.33	8.70
C-Personal Self	66.34	8.66	64.55	7.41
D-Family Self	71.77	8.35	70.83	8.43
E-Social Self	71.52	7.52	68.14	7.86
Total Variability	46.92	14.61	48.53	12.42
Col. Total V.	28.26	11.18	29.03	9.12
Row Total V.	18.38	5.67	19.60	5.76
Distribution	118.36	23.17	120.44	24.19
5	17.69	8.89	18.11	9.24
4	26.84	8.31	24.36	7.55
3	16.13	8.20	18.03	8.89
2	19.28	7.43	18.85	7.99
1	18.37	8.96	20.63	9.01
Defensive Positive	56.31	11.73	54.40	12.38
General Malad.	97.89	9.52	98.80	9.15
Psychosis	47.38	6.02	46.10	6.49
Pers. Disorder	76.08	10.53	76.39	11.72
Neurosis	83.46	11.37	84.31	11.10
Pers. Integration	10.62	3.79	10.42	3.88

Table 3

MINNESOTA MULTIPHASIC PERSONALITY INVENTORY

MALE AND FEMALE AIDES

Score	Male Aides (N=66) Mean	S.D.	Female Aides (N=63) Mean	S.D.
L	3.44	1.64	2.40	1.35
F	4.39	3.38	4.22	2.44
K	15.39	4.83	15.60	3.03
Hypochondriasis	5.03	4.67	9.90	9.86
Depression	18.20	5.21	17.20	6.21
Hysteria	21.82	5.63	16.30	9.12
Psychopathic	16.52	4.77	15.20	3.39
Interest	29.96	5.51	38.70	5.38
Paranoia	10.62	2.60	9.70	2.36
Psychasthenia	12.08	7.80	12.20	3.61
Schizophrenia	12.50	9.32	11.50	3.63
Hypomania	18.67	3.88	18.80	3.61
Social I. E.	20.09	10.46	22.70	7.48
Dependency	19.09	9.03	18.70	5.64

Another scale, the Minnesota Multiphasic Personality Inventory, also yields profiles for male and female aides which are well within the normal and expected limits for college students. These profiles are illustrated above in table 3.

Table 4

ATTITUDES TOWARD DISABLED COLLEGE STUDENTS

Group	Mean	S.D.
General College Males, no previous contact with handicapped (N=66)	74.44	21.26
General College Females, no previous contact with handicapped (N=87)	79.10	18.43
Female Aides (N=63)		
First year of work as aides	85.23	22.32
Second year	82.17	24.09
Third year	69.62	21.86
Male Aides (N=27)		
First year of work as aides	89.64	17.88
Second year	84.54	19.59
Third year	81.75	16.86

Higher scores on the Attitudes Toward Disabled College Students scale (C. D. Auvenshine, unpublished doctoral dissertation, University of Missouri, 1962) indicate more positive and accepting attitudes. Table 4 reports scores obtained by various groups of students, including a general college sample. Females consistently earn

higher scores than males and beginning aides of both sexes earn higher scores than non-aides. It is interesting to note that aides tend to earn lower scores with each passing year of work as aides. This trend is probably best interpreted as an outcome of increased honesty and familiarity with disability; the willingness to state negative feelings about the handicapped rather than protecting them from the truth.

Table 5

STRONG VOCATIONAL INTEREST BLANK

MALE AIDES AND GENERAL COLLEGE MALES

Occupation	Aides (N=28) Mean	S.D.	General College (N=509) Mean	S.D.	t
Accountant	2.04	1.95	2.51	1.75	-1.39
Advertising Man	4.00	2.00	4.85	1.78	-2.47*
Air Force Officer	3.57	2.15	3.33	1.82	0.69
Architect	3.54	2.15	3.40	1.91	0.35
Army Officer	2.79	2.13	2.38	1.73	1.19
Artist	4.11	1.89	4.01	1.83	0.27
Author-Journalist	4.68	1.79	4.83	1.74	-0.45
Banker	2.25	1.58	3.17	1.67	-2.84*
Biologist	3.86	2.10	2.84	1.92	2.73*
Business Educ. Teacher	3.29	2.05	3.67	2.00	-0.98
C.P.A. Owner	2.18	1.28	2.87	1.41	-2.55*
Senior C.P.A.	1.71	1.51	2.61	1.85	-2.52*
Carpenter	2.11	1.77	2.33	1.69	-0.67
Cham. of Com. Exec.	4.68	1.66	4.69	1.85	-0.03
Chemist	2.96	2.28	2.64	1.94	0.86
Computer Programmer	3.93	2.37	3.59	1.94	0.89
Com. Rec. Admins.	4.32	2.14	3.71	2.08	1.52
Credit Manager	3.25	2.22	3.79	2.12	-1.32
Dentist	3.29	1.56	3.51	1.80	-0.66
Engineer	2.46	1.99	2.59	1.77	-0.36
Farmer	3.79	1.77	3.98	1.70	-0.58
Forest Service Man	2.11	1.91	1.92	1.47	0.64
Lawyer	4.25	2.07	4.77	1.71	-1.55
Librarian	4.89	2.08	4.10	1.91	2.14*
Life Insurance Slsmn.	3.82	2.33	4.52	1.75	-2.02*
Math-Science Teacher	3.18	1.94	2.97	1.63	0.64
Mathematician	2.64	1.81	2.36	1.66	0.86
Minister	3.79	2.04	2.39	1.97	3.65*
Mortician	3.71	2.09	4.24	1.58	-1.68
Music Teacher	5.25	2.37	4.03	2.00	3.12*
Musician Performer	6.07	1.94	5.29	1.81	2.22*
Office Worker	2.64	1.91	3.45	1.89	-2.21*
Osteopath	4.32	1.72	3.30	1.71	3.08*

(Continued)

Table 5 (Continued)

STRONG VOCATIONAL INTEREST BLANK

MALE AIDES AND GENERAL COLLEGE MALES

Occupation	Aides (N=28) Mean	S.D.	General College (N=509) Mean	S.D.	t
Personnel Director	2.93	1.76	2.70	1.73	0.69
Pharmacist	3.18	1.83	3.48	1.63	-0.95
Physical Therapist	5.25	2.34	4.06	1.96	3.09*
Physician	4.75	1.86	3.87	2.09	2.18*
Physicist	2.39	1.97	2.08	1.69	0.94
Policeman	2.29	1.41	2.11	1.29	0.70
President-Mfg. Concern	2.18	1.42	2.83	1.54	-2.20*
Printer	3.07	1.46	4.11	1.73	-3.13*
Production Manager	3.32	2.04	3.07	1.57	0.80
Psychiatrist	4.29	2.02	2.86	1.76	4.16*
Psychologist	4.11	2.10	3.06	1.65	3.25*
Public Administrator	4.29	1.72	3.43	1.89	2.36*
Purchasing Agent	2.82	1.87	3.61	1.88	-2.17*
Real Estate Slsmn.	4.32	2.04	5.38	1.55	-3.47*
Rehabilitation Counselor	4.57	1.77	3.72	1.86	2.37*
Sales Manager	2.75	1.86	3.80	1.85	-2.94*
School Superintendent	3.04	1.79	2.24	1.58	2.59*
Social Science Teacher	4.18	2.00	4.21	1.93	-0.09
Social Worker	5.00	2.24	3.85	2.17	2.74*
Veterinarian	3.46	1.77	3.32	1.52	0.50
YMCA Secretary	4.21	2.35	4.20	2.11	0.02

*Significant at or beyond the .05 level. Table 5 illustrates the areas in which male student aides differ from general college males on the SVIB. In addition to some obscure differences, it is not surprising to note that aides are higher on the scales for Physical Therapist, Physician, and Rehabilitation Counselor.

Table 6

STRONG VOCATIONAL INTEREST BLANK

FEMALE AIDES AND GENERAL COLLEGE FEMALES

Occupation	Aides (N=72) Mean	S.D.	General College (N=602) Mean	S.D.	t
Artist	4.21	1.96	4.01	1.72	-0.90
Author	3.94	1.93	3.92	1.72	-0.11
Business Educ. Teacher	2.57	1.66	2.95	1.69	1.81
Buyer	1.96	1.26	2.76	1.53	4.29*
Dentist	2.58	1.34	2.28	1.41	-1.75
Dietitian	3.03	1.62	2.60	1.41	-2.36*
Elementary Teacher	4.24	1.73	4.28	1.82	0.18
Engineer	2.40	1.70	1.87	1.48	-2.85*
English Teacher	2.57	1.84	2.37	1.60	-0.96
Home Economics Teacher	3.04	2.02	2.47	1.62	-2.77*
Housewife	4.58	1.55	4.79	1.57	1.08
Laboratory Technician	3.06	1.69	2.70	1.69	-1.71
Lawyer	2.65	1.73	2.70	1.69	0.23
Librarian	3.03	1.85	2.85	1.40	-0.98
Life Ins. Saleswoman	1.81	1.17	2.27	1.30	2.92*
Math-Science Teacher	2.71	1.37	2.35	1.47	-1.96
Music Teacher	3.88	2.03	3.48	2.01	-1.58
Musician Performer	5.01	1.95	4.68	1.77	-1.48
Nurse	3.57	1.63	2.74	1.57	-4.20*
Occupational Therapist	4.47	2.20	3.17	1.76	-5.75*
Office Worker	3.50	1.70	4.15	1.76	2.95*
Phys. Educ. Tchr.-College	2.64	1.61	1.73	1.44	-4.96*
Phys. Educ. Tchr.-H. S.	3.58	1.63	3.19	1.45	-2.16*
Physical Therapist	5.21	1.80	3.86	1.80	-6.00*
Physician	3.46	1.93	2.65	1.55	-4.09*
Psychologist	2.88	1.65	2.08	1.41	-4.45*
Social Science Teacher	2.33	1.74	2.06	1.62	-1.33
Social Worker	4.53	1.62	4.03	1.84	-2.18*
Stenographer Secretary	3.79	1.82	4.85	1.69	4.97*
YWCA Secretary	2.00	1.31	1.47	1.27	-3.33*

*Significant at or beyond the .05 level. The Occupational and Physical Therapist scales appear to identify female aides from among a general college female sample.

CONCLUSION

We have reviewed the role of the aide and have suggested some specific ways in which the relationship with a handicapped roommate might be facilitated. The process of mutual self-selection was described and emphasized as being the most efficient way of bringing handicapped students and prospective aides together. Psychological and vocational factors were presented as they relate to the role of aides and comparisons with general college students were presented. But in addition to this administrative view of the process, the picture is not complete without hearing the actual words of the aide himself. Therefore, we have presented a complete verbatim interview below in which the experienced male aide discusses his role with the project director. In the interview, the aide's statements are identified by "S"; the interviewer, by "C".

The Interview

C - This is _____ _____, senior. _____ is graduating and has been an aide for only one year. What can you share with us that might be interesting or valuable over the years, what have your reactions been to the handicapped, and so forth?

S - Well, I guess my reactions started really way back when I was a freshman. I was really surprised at the number of handicapped students that were here on campus. I had been informed before I came that the campus was equipped for it, but I was not prepared to see as many handicaps as I did. First of all, I thought it was sort of strange because I had never been around handicapped people to this extent. However, I learned, after a very short while, that I had become totally unaware of their handicap. They were just people. They were rolling around in wheelchairs and walking around on crutches, but it really didn't matter. Some of them you liked and some of them you didn't like.

C - What started out to be somewhat of a forbidding situation sort of dissolved right before your eyes.

S - Right. It became no situation at all, just normal. This is not a very good way to state it but that is as well as I can put it. As time went on, first of all I noticed the change within myself and then I became interested in rooming with a handicapped person to see what this would be like. And so you know, last summer I roomed with _____, and we had a great time. Of course I had to help him in and out of the shower, sometimes with his toilet habits, getting up off the commode, but otherwise it was just a good friendship, which has, even though we don't room together any more, we are still friends. Very good friends, I think. As far as I am concerned now, the way it has helped me most is when I see a handicapped person, outside of St. Andrews, there is no, well, it used to be a sort of self-conscious prejudice against them, but this is gone, I am happy to say. I have benefited that way.

C - It is a two-way process certainly--you helped _____ and the whole experience helped you.

S - And of course you know _____ was a bit self-conscious about his handicap and he would make apologies for the way his feet are deformed, so forth and so on, this was at the beginning but as time went on--well when he said things like that, I would either ignore him completely or make some crack about it--and as time went on he became unconscious, I think. He was not always worried about what I was thinking about him being deformed. That way we both benefited and he did especially, I think.

C - Are you saying that perhaps you were not ready for this role when you first came to St. Andrews?

S - My freshman year I was completely unprepared for seeing the number of handicapped students that were here. The first week I felt sort of like I was in a giant hospital because I had only one class outside of the conservatory and in that one class there were about five or six handicapped students in that class. So the first week when I walked in it was strange. I had been brought up in a home where--where a sort of subtle prejudice was introduced, nothing blatant at all, where you have these people who just rage about the racial situation--then there are homes where there is an attempt at understanding prejudice--well this is the type of home where I was brought up in where handicapped--well I had seen a number of handicapped people because of the nature of my mother's work. She works out in the county. She is Home Economics Extension Agent for _____ county so she goes to a lot of places where in several homes the grandmother was a complete invalid, the only thing that she could use maybe were her hands. One woman I remember particular, was paralyzed from the waist down and so I was--even though there was a respect there, there was more of the attitude these people are to be pitied. This is the kind of concept I came to St. Andrews with, but now I hope that is completely changed, because they are not to be pitied.

C - That would not be accepted here. Is that what you mean? That pity would not be accepted here?

S - Yes, in a positive sense. It is a very hard thing to put my finger on.

C - Or maybe understanding.

S - Well, that is a better word.

C - What does that mean to you?

S - I understand and I have sympathy for them in that they cannot help what has heppened to them, but this in no way makes me feel that they are any less of a creative individual than I am.

C - In other words, it is a physical limitation, period.

S - Right.

C - Where before it was the focus, perhaps, of the relationship?

S - Right. And before it had--the whole thing was over-shadowed with maybe they aren't as much of a person as I am both mentally as well as physically.

C - In other words, there was some spilling over from the physical to the creative?

S - It was dehumanizing on my part where as now this is not the case.

C - Do you recall specific encounters you have had at St. Andrews that really socked it to you in this area?

S - Yes, I do. I remember two right off the bat--I may remember another one later on. One was with--when I first became acquainted with _____ _____. She was coming out of the L. A. and she was commenting very casually about having trouble opening the door. I don't remember exactly what her comment was but it was something to the effect that "I would open that old door if I had strong arms," and that was a statement that sort of made me aware in a new way of her as a person. I can't explain it really well, but let me go ahead. The second one was _____ _____, and it was the first time that I had met her. She was coming out of the Student Center upstairs, and somebody opened the door for her, and she was in a big hurry and she said, "Thanks so much for opening the door; if you hadn't I would have broken the damn thing," and she was gone. Then after that I learned that she was a terrific person. I think it was _____ and _____ who were severely handicapped that made me have more respect and understanding for handicapped people.

C - In these instances you probably thought, "My God, that's a human being in there."

S - Exactly.

C - And before they were just "it" over there.

S - This is not completely the way, but sort of.

C - And following these instances, you were no longer able to keep them in a dehumanized category?

S - As if they really were trying to say, "I'll show you."

C - How did this make you feel?

S - Well, it made me feel a little bit insecure to begin with, but I think sometimes we want to place people beneath us to make ourselves feel more secure. But as time went on I was really glad that this had happened and it made me realize what a real flaw I had and what an attitude I had. But I have been pretty much of a snob toward people who were somehow less fortunate than I in any respect, economically, socially, or anything.

C - Is it like you had a piano pupil of your own and suddenly the little rascal runs through a phrase better than you ever will?

S - Right.

C - You would probably say, "My gosh, this is a new light." You evidently have been open to learning all this and so forth; you haven't fought it but responded to what's been coming out at you. You are not the same person as you were four years ago in these areas.

S - That's true, especially in these areas. I guess I have learned very early that you have got to adapt to what's--but you know it has not been a painful adaptation.

C - Well, I hear this over and over again and in some areas I can almost predict what an aide will say following his experience but I realize that it is different for each individual and I am wondering this, have you learned things that perhaps you would never have learned or successfully avoided all your life, first of all?

S - If I had not been exposed to handicapped students and the program for the Rehabilitation I could have successfully avoided it all of my life, I think, or a good part of my life any sort of really meaningful encounter with them. By meaningful I mean the type of things where there is a two-way exchange in which I have described before, where we both learned, but I feel like I have gained more understanding than they have. I don't know if I answered both parts of your questions.

C - I really don't think I asked both parts. The next step would be to make some sort of value judgment on it. I am inclined to do

FILMED FROM BEST AVAILABLE COPY

this. In other words, if a student comes on campus, he has given up the option of remaining insulated, hasn't he? Is this good, bad, or indifferent?

S - Well, I don't think--from my standpoint it has been indifferent. I was not aware of what I would be confronted with. I had been told in literature that provisions had been made through ramps, showers, facilities, and so on for handicapped students. This had not really sunk in through the old skull and I had not really become aware of the full implication of that statement until I got here.

C - The number of handicaps in your first class areas was perhaps a bit unusual.

S - I don't know. It depends upon the class. That seems somewhat above average.

C - Roughly 3% of the student body being handicapped if you had a class of 30 students, the percentage would be .9 handicapped students. And you had five.

S - Six.

C - Just a coincidence.

S - Well, of course in C & C where you got 300, and only because I think in a sense they are more noticeable. I think this is why they stood out to me so much my freshman year. It was a big class, over 30, I think that is why I was so aware of them.

C - You found this just a little bit threatening or a little bit--

S - Threatening, I am not sure how threatening.

C - It is a confrontation for everyone, isn't it? It is a confrontation that they have successfully avoided all of their life up to this time?

S - Yes, that is true. I think from what I have seen of students though that it is an unconscious avoidance, it was on my part. When I had gone to these different places with my mother it was just--they were there but I had not ever made any effort to avoid them and I had never been bothered when they were around. But I became aware of the handicapped person as a student who was my equal, you see what I mean?

C - Which is precisely the difference. In other words, as you worked with your mother the roles were well structured?

S - Yes, very well structured.

C - Here is the work and here is the client.

S - The client is a very well-defined role within the household.

C - Right. In addition to the others.

S - Right. Of course, due to the handicap he or she did not contribute much in the way of labor. There was one lady I knew who made fantastic hooked rugs but this was the only one I knew that did something like this.

C - Slipped out of role a bit?

S - Yes.

C - I think you have hit on a very basic feature of our campus or a basic factor in this kind of project. Is the confrontation or role or problem for the first time unconscious or otherwise, here it is, and what can you do? In your case you responded and you learned and grew. What are the possibilities? What have you seen happening in other students?

S - In most other students I have seen the same thing. Now this is due largely I would say to the handicapped students they come in contact with, because there are some that have been completely repulsive to some people, and they would have nothing to do with them and would make an overt attempt to avoid them. And then there have been others, like _____, who was very unique in many ways.

C - Swell kid.

S - Yes. She really was. Of course there is _____ _____--I think it all depends on whether or not the so-called "normal" students are able to identify in some respect with the handicapped students. I think 99% of the time they are.

C - Identify?

S - Yes, that's right. I think they have to be able to identify in some manner. In _____ case it was humor, _____ case it was humor, raising hell and this type of thing just so that the other students can know that they are (I don't know whether I am saying this exactly right) like them. That he is a creative individual and equal in many respects to them. Have I said very much, I am not sure?

C - Yes.

S - So it is really a two-way thing, I think. Although you have to get attuned sort of emotionally to this encounter, I don't see many people trying to avoid it.

C - On this campus you don't see many people having a problem with it?

S - No, I really don't.

C - They would be pretty unhappy if they are, wouldn't they?

S - Sure.

C - And interestingly enough, a couple of the key encounters that you have had were with the more severely handicapped, therefore it is to a degree the disability that facilitates the relationship?

S - No, it isn't. No, it hasn't been in my case; let me put it this way.

C - Do you think that might be a universal rule on the campus? Or is that just coincidence?

S - I would say that was pretty much universal.

C - I am interrupting your thinking a little bit. What are the redeeming qualities in you as a student and as an aide to the handicapped? What are the key channels that are opened, or open the doors from the first place?

S - I am not sure I understand the question.

C - How does one person fail to make the human contact?

S - I see. The least I would say to begin with is a person's unwillingness to adjust to the student where handicapped students are creative members of a community. I would say that one person in a hundred does that, if that many. He avoids confrontation for that reason.

C - OK.

S - The second one would maybe--well this puts a lot of emphasis on the persons, on the handicapped persons. But I think that--well I am just thinking of one instance now--that the handicapped person was an unattractive person and was unattractive in all aspects, personality, physically, everything. And if this is the case then I think the avoiding contact and confrontation--

C - You are thinking of all of the negative features. Maybe you would come out of it through the positive ones that do facilitate communication and general human contact. You have already said humor and I guess that must be pretty basic, isn't it?

S - Yes. And I keep going back to _____, but I think she was one of the best examples of adjustment psychologically, emotionally, and everywhere to her handicap and she did not let it bother her or it did not come out around other people that it was bothering her. She talked about it, she was as intelligent or more intelligent than some of these students on this campus, she did not try to be splashy about what she knew or showed off. But when you got into a conversation with her you realized it was on two levels. You realized on the level of friends, and on the level of capabilities. All I can say is in my conversation with her I became completely unaware of her handicap. It was just not

there in a sense. I haven't answered your question directly but I don't know how to get at it any more.

C - Back a minute ago, I heard you say we are number two until we try harder. Is this expected of the handicapped too, perhaps?

S - For them, as far as I am concerned it is not. It should be me who goes the extra mile to try to meet them because they may feel very, very insecure coming into this type of situation. They aren't sheltered from a lot of things they have been sheltered from like kids playing, or living at home with mother and daddy, which can be terrible, I would think, because it would be a terribly protective environment, and so meeting some of these students, I would somehow realize that they have been this way and that I should make an extra effort to let them know that I think of them as my equal and not as someone who should be pitied.

C - Are you saying that you do this because you believe it, not because it is good to do?

S - Right.

C - Based on your experience, they are in these areas equal?

S - Yes.

C - You don't have to pretend, you know it.

S - No. There is no pretending necessary. I would say that most of the upperclassmen who are handicapped students got this message. I was thinking particularly of _____. He seemed to be very insecure when he first came.

C - Well, is there any other area or anything particular you would like to comment on or share or suggestions you might make to strengthen this program?

S - Let's see.

C - Let me ask a loaded question at this point. Do you feel that I myself or Mrs. _____, or anyone involved with this program, as a whole or as an individual, that you have had access to the problems or that you have had the opportunity to make suggestions, or that you felt free to complain for example?

S - Oh yes. I never felt the need to complain. I am speaking specifically of my relationship as a roommate with _____. I have never felt that I would have any trouble coming to one of you all with my problem.

C - Or if you saw a campus problem relating to the handicapped that perhaps you were not involved in personally, would you feel free to bring it in or discuss it or what?

S - Well not being involved directly--well I had better put it this way. Before this year, before last summer when I became more intimately associated with this project, I would not have felt free to come in. I would have probably said it to this person's aide, "Why don't you suggest to Mr. _____ or something?" Now I feel perfectly at ease to say something directly to you. The reason for that was I would have felt that it really wasn't my business.

C - Well, I gather that you are quite proud of the student body in this area?

S - Yes, I am. I cannot think of anything where the handicapped students have not been considered as just people or fellow students.

C - We have a pretty fine group.

S - Yes. I can say that you can always see it in any freshman class that is always taken by the number of handicapped on campus. But after the first week or month or so, it is nothing. In one area this helps them all the way around because if they live four years here at St. Andrews they are going to be closely associated friendship-wise with the handicapped students in some area. I think this sort of experience they have in this area will be similar to the ones that I have had, and it will make them realize the things that I have realized and I think it is valuable in that respect. I think it will carry over when we are no longer here at St. Andrews.

C - In other words you feel that this is very unique and very important part of the education that one gets at St. Andrews?

S - Exactly.

C - It sounds like a brochure, doesn't it?

S - Well, it does a little. It fits in quite well with the stated goals of the college--a well rounded education meaning academic and socially and I think this fits right in.

C - Reality.

S - Yes, it is reality.

C - Well, I guess I will have to agree, I think students graduating from here will have a unique contribution to make in their community wherever they may live. You can't avoid disabling conditions. This is part of the world and this is just the way it is with wars and wounded veterans it will be more and more the picture. And you and people like you are going out to establish positive attitudes instead of negative ones and this to me is a tremendous thing.

S - I think it is. I don't think if I had gone to another school that my attitude today would be significantly different towards handicapped

students. I really don't know another school that has the program that this one has.

C - Well I appreciate these reflections, _____. As I say I do hear these sort of things and it gets to be quite impressive after a while. There is so much of this consistency telling of what you have learned and what you have gained, it is simply not you have been someone's aide.

S - No, it goes much, much deeper than being an aide.

C - It is really the beginning.

S - Yes, it is. I think of an aide as sort of a nurse and the relationship that is developed goes so much beyond this sort of patient relationship that it is just fantastic.

C - I think you have even said it is more than an average friendship.

S - Yes, that is true.

C - Even more than that.

S - Just having some student's friendship that I really cherish. I am not sure that this would have ever been possible from my standpoint if I had not come to St. Andrews------TAPE ENDS.

Anthony, William A. The effects of contact on an individual's attitude toward disabled persons. Rehabilitation Counseling Bulletin, 1968, 12, 3, 168-171.

Auvenshine, C. D. The development of a scale for measuring attitudes toward severely disabled college students. Unpublished doctoral dissertation, University of Missouri, 1962.

Condon, Margaret E. Ten year survey of physically handicapped students at the City College of New York. Personnel and Guidance Journal, 1961, 38.

Dunn, Marilyn. Satisfaction with social relationships of college students who are physically disabled. Unpublished doctoral dissertation, University of Illinois, 1957.

Fitts, William H. Tennessee Self Concept Scale Manual. Counselor Recordings and Tests, Nashville, 1965.

Jordan, J. E. Attitudes toward education and physically disabled persons in eleven nations. Latin American Studies Center, Michigan State University, 1968.

Mase, Darrell J., and Williams, Charles F. The assessment of college experience of severely handicapped individuals. University of Florida, 1964.

Rusalem, Herbert. Guiding the physically handicapped student. Columbia University, New York, 1962.

Tucker, William V. Higher education and handicapped students. Kansas State Teachers College, 1964.

Urie, Robert M., and Smith, Alvin H. The effects of peer contact on attitudes toward disabled college students. Journal of Applied Rehabilitation Counseling, I, 1970, 4, 24-32.

Yuker, H. E., Block, J. R., and Younng, Janet. The measurement of attitudes toward disabled persons. Human Resources Study No. 7, Human Resources Foundation, Albertson, New York, 1966.